

LA-UR-20-23846

 $\label{lem:proved} \mbox{Approved for public release; distribution is unlimited.}$

Title: MARSAME Radiological Release Report for Metal Items from TA 53- Set 16

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Intended for: Report

Issued: 2020-05-26



MARSAME Radiological Release Report for Metal Items from TA 53- Set 16

October 16, 2019

Summary

EPC-ES has evaluated the survey results for metal items from the Los Alamos Neutron Science Center (LANSCE) and found that the metal items described in Table 1 of this report (identified by RP Tracking Numbers) meet the criteria for unrestricted release under DOE Order 458.1 Radiation Protection of the Public and the Environment and can be recycled. This conclusion is based on the known history of the metal items and on radiation survey data (see the completed RP-Form-036 LANSCE Metals Clearance Log for each item). None of the items in this report are located within radiological areas. Therefore, the items are considered unencumbered and are not subject to the moratorium suspension on metal recycling from Department of Energy facilities. Additionally, LANL has determined that there is no practical opportunity for internal DOE reuse or recycling of this metal.

Process knowledge indicates that these metal items were unlikely to ever be in direct contact with the beam and thus are unlikely to have become activated. Surface contamination measurements (both total and removable) showed either no detectable radioactivity or activity levels within the range of background. All measurements for volumetric contamination were indistinguishable from background based on calculated decision limits. Additionally, all gamma isotopic surveys conducted for defense in depth showed no identifiable gamma radiation from beam activation.

Assessment of Sampling and Measurement Quality

The items included in this report have been classified as Class 3 (minimal potential for contamination) consistent with the Multi-Agency Radiation Survey and Assessment of Materials and Equipment (MARSAME) methodology (LANL TPP). Sampling and analysis protocol for these items was consistent with LANL policy and procedures (LANL FSD-004). Decision thresholds for scans of volumetric contamination were based on a false alarm probability (Type 1 error) of 1% (LANL TBD). The objectives of the measurements were to confirm, within the stated statistical confidence limits, that:

- 1) Measurements of total and removable surface radioactivity are below Table 10.2 values in EPC-ES-FSD-004 (LANL FSD-004), which are preapproved authorized limits for release for recycle, and
- 2) Potential residual volumetric radioactivity is below background levels (i.e. indistinguishable from background).

All data met the Measurement Quality Objectives (MQO). Specifically:

- 1) Appropriate instrumentation and techniques were used for the measurements and the expected radionuclides (LANL TPP, TBD, SOP)
- 2) Instruments were calibrated, response checked and background measurements were within expected ranges, and
- 3) The minimum detectable concentrations of the indistinguishable from background measurements were calculated to be below the ANSI 13.12 (2013) 1 mrem/yr (10 µSv/y) values (LANL TBD).

Results and Analyses of Measurements

The following table lists the items included in this MARSAME Metal Release Report. Each of the items was found to be acceptable for recycle based on surface and volumetric surveys (Attachment 1). Items in this table were of unknown origin but were known to be separated by both space and time from the active accelerator beam. We conclude, based on process knowledge and measurement results, that the items in this report are candidates for release and recycle.

Table 1. Summary table for metal items from LANSCE

	RP Tracking	Notes / Description	Complete	lmaga	Rele	Releasable based on:			
	Number	Notes / Description	RP-Form-036	Image	Direct Beta	Smear	Direct Gamma		
1	29219321	Item not directly in beam	Х	Х	х	Х	Х		
2	29229453	Item not directly in beam	Х	Х	Х	Х	Х		
3	29229490	Item not directly in beam	х	х	X	Х	X		
4	29229521	Item not directly in beam	Х	х	х	х	X		
5	29229538	Item not directly in beam	Х	х	x	Х	X		
6	29229539	Item not directly in beam	Х	х	Х	Х	Х		
7	29229540	Item not directly in beam	Х	х	х	Х	x		
8	29229541	Item not directly in beam	Х	х	х	х	X		
9	29229542	Shield Blocks not directly in beam	Х	х	x	Х	X		
10	29229543	Shield blocks not directly in beam	Х	х	Х	Х	Х		
11	29229544	Item not directly in beam	X	х	x	Х	x		
12	29219680	Item not directly in beam	х	х	х	х	Х		
13	29229856	Item not directly in beam	Х	х	x	Х	X		
14	29229857	Item not directly in beam	х	х	x	х	х		

	RP Tracking Number	Notes / Description	Complete	Image	Releasable based on:			
	Number	Notes / Description	RP-Form-036	iiiage	Direct Beta	Smear	Direct Gamma	
15	29229862	Item not directly in beam	Х	Х	Х	Х	Х	
16	29229858	Item not directly in beam	х	Х	х	Х	х	
17	29229860	Item not directly in beam	х	Х	х	х	х	
18	29229861	Item not directly in beam	X	Х	х	Х	Х	

References

ANSI (2013). Surface and Volume Radioactivity Standards for Clearance. ANSI 13.12.

(LANL Log) Los Alamos National Laboratory (2015) LANSCE Metals Clearance Log. LANL Radiation Protection Form RP-Form-031.006

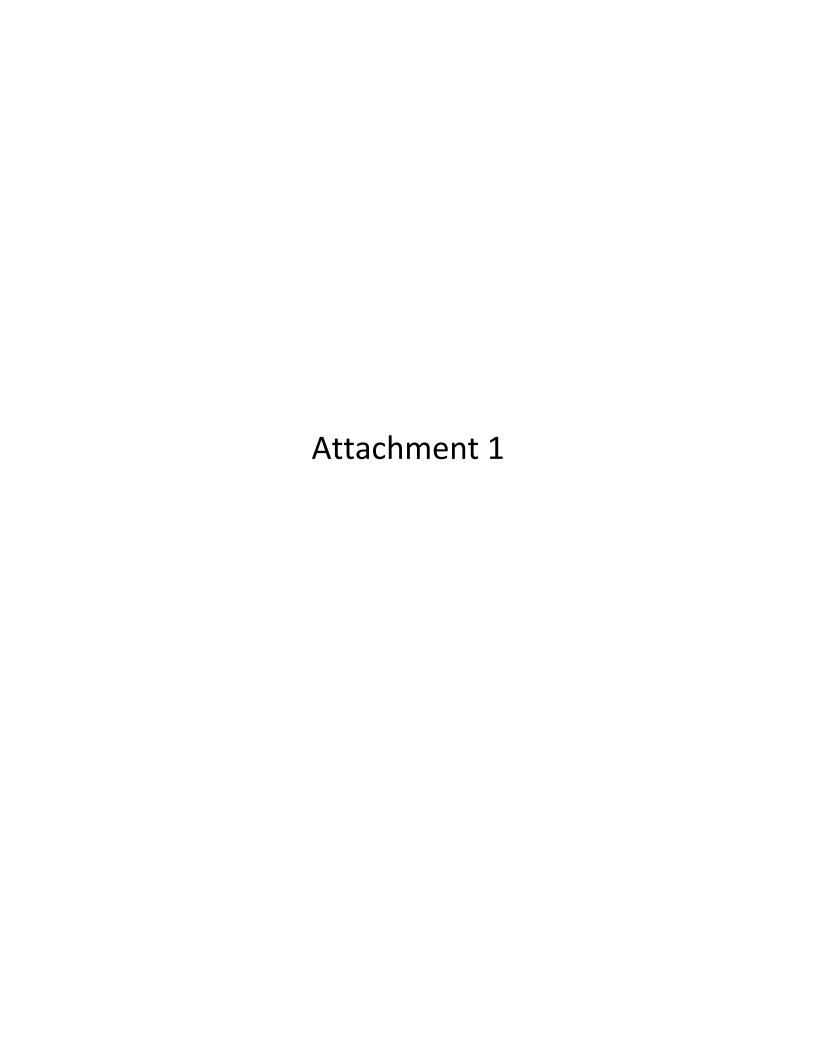
(LANL FSD-004) Los Alamos National Laboratory (2017). *Environmental Radiation Protection*. LANL Functional Series Document EPC-ES-FSD-004.

(LANL SOP) Los Alamos National Laboratory (2017). LANSCE Metals Clearance Process. LANL procedure RP-SOP-077.005

(LANL TBD) Los Alamos National Laboratory (2015). *Technical Basis Documentation Regarding Health Physics Measurements for the Unrestricted Release of Metals from LANSCE*. RPSVS-RIC-TBD-03, R1.

(LANL TPP) Los Alamos National Laboratory (2015). Data Quality Objectives for Measurement of Radioactivity in or on Items for Transfer into the Public Domain. LANL Technical Project Plan ENV-ES-TPP-001, R1.

(MARSAME) Multi-Agency Radiation Survey and Assessment of Materials and Equipment Manual (2009). NUREG-1575 (Supp. 1), EPA 402-R-09-001, DOE/HS-004.





Date/Time:			Item Barcode Numbers
08.14.19 / 0830)		
Photo File Nam	e:		29219321
ltem Descripti	on, including any process and	historical kno	owledge
Orange Metal B	leam		
Large Circular N	Nagnet I		
Large Circular N	/lagnet II		
Small Square M	agnet		
Metal Donut Co	pmponent		
Yellow Shield B	lock I		
Yellow Shield B	lock II		
Evaluation			
Survey	Below release criterion? (Y/N)	Releasable? ((Y/N)
Direct Beta	Y	Y	
Smear	Y	Υ	5
Direct Gamma	Υ	Y	
Comments			
Items surveyed	were not directly in beam path		
•	, ,		
	250		
	00	1 11	, /
L. Sha		ignature	336582 oq. 11. 19 Z-Number Date
	, 0.	y	
W ₁ D	uran	Dur	106440 9/11/19
NC/ N		gnature	Z-Number Date
M. D		Dura	106440 9/11/19
HPFC Re	eviewer Si	gnature	Z-Number Dåte

Item Release Survey—Direct Beta and Gamma Survey

Date: 08.14.19	Time: 0830	No. samples: 46		
TA: 53	Building: 365	Room: Parking Lot		
L. Sharisky	Level Stank	336582		
RCT Name	Signature	Z Number		
w Duran	and dim	LO 6440		
RCT Name	Signature	Z Number		

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7488	7488	01.20.20	165	30%	119.05

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15031	15031	02.06.20	78.4	120

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	87
2	74
3	88
4	70
5	73
Average	78.4

Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	Orange Metal Beam: Top	205	Y [1-2]	50	Y
2	Orange Metal Beam: Bottom	178	Y [3-4]	71	Y
3	Large Circular Magnet I: Top	204	Y [5-10]	74	Υ
4	Large Circular Magnet I: Bottom	198	Y [11-16]	75	Υ
5	Large Circular Magnet II: Top	202	Y [17-22]	79	Υ
6	Large Circular Magnet II: Bottom	189	Y [23-28]	98	Υ
7	Small Square Magnet: Top	188	Y [29]	106	Υ
8	Small Square Magnet: Bottom	164	Y [30]	108	Υ
9	Metal Donut Component: Top	199	Y [31]	90	Υ
10	Metal Donut Component: Bottom	224	Y [32]	108	γ
11	Metal Donut Component: Inside	208	Y [33]	47	Υ

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
12	Metal Donut Component: Outside	213	Y [34]	71	Y
13	Yellow Shield Block I: Top	212	Y [35-36]	68	Υ
14	Yellow Shield Block I: Bottom	188	Y [37-38]	77	Υ
15	Yellow Shield Block I: Sides	189	Y [39-40]	82	Υ
16	Yellow Shield Block II: Top	178	Y [41-42]	65	Υ
17	Yellow Shield Block II: Bottom	197	Y [43-44]	107	Υ
18	Yellow Shield Block II: Sides	212	Y [45-46]	87	Υ
N/A	END OF SURVEY	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Batch ID:

TA-53 Samples - 201908141524

Count Date:

8/14/2019 3:24:06PM

Group:

Count Minutes:

1.00

Device:

Batch Key:

8140

Count Mode:

Simultaneous

Operating Volts:

1335

BC#:

29219321

S5XLBG Unit2

Gamma Volts:

828

Bldg:

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate:

0.00 ± 0.00 ± 0.60 Alpha:

31.11 ± 0.11

N= 240.71 dpm

Beta Rate: Gamma Rate:

1.80 155.20 ± 5.57 Beta: Gamma: 44.44 ±

Efficiency (%)

8.80

0.11

Gaiiiiia Nate.							
Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	<u>Beta</u> (dpm)	Unc	Beta MDA (dpm)	Gamma (dpm)
20190814152406-E1	0.00	0.00	8.70	4.95	4.70	16.97	-150.00
20190814152707-E2	0.00	0.00	8.70	2.70	4.12	16.97	-70.45
20190814152817-E3	0.00	0.00	8.70	0.45	3.46	16.97	293.18
20190814152927-E4	0.00	0.00	8.70	7.20	5.21	16.97	-36.36
20190814153047-E5	0.00	0.00	8.70	4,95	4.70	16.97	-59,09
20190814153157-E6	0.00	0.00	8.70	0.45	3.46	16.97	-2.27
20190814153308-E7	0.00	0.00	8.70	7,20	5.21	16,97	88.64
20190814153417-E8	0.00	0.00	8.70	-4.05	1.35	16.97	-13.64
20190814153537-E9	3.21	3.21	8.70	7.20	5.21	16.97	-2.27
20190814153647-E10	0.00	0.00	8.70	0.45	3.46	16.97	88.64
20190814153758-E11	0.00	0.00	8.70	2.70	4.12	16.97	429.55
20190814153908-E12	0.00	0.00	8.70	0,45	3.46	16.97	145.45
20190814154018-E13	0.00	0.00	8.70	2.70	4.12	16.97	-47.73
0190814154138-E14	0.00	0.00	8.70	-1.80	2.62	16.97	168.18
20190814154248-E15	0.00	0.00	8.70	4.95	4.70	16.97	100.00
0190814154358-E16	0.00	0.00	8.70	-1.80	2.62	16.97	156.82
0190814154508-E17	0.00	0.00	8.70	-1.80	2.62	16.97	-195.45
0190814154628-E18	3.21	3.21	8.70	4.95	4.70	16.97	-229.55

4:21:26PM

Batch ID:

TA-53 Samples - 201908141524

Count Date:

8/14/2019 3:24:06PM

Group: Device:

S5XLBG Unit2

Count Minutes: Count Mode:

Simultaneous

Batch Key:

8140

Operating Volts:

1335

1.00

BC#: Bldg: 29219321

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate: Beta Rate:

0.00 ± 0.00 1.80 ± 0.60 Alpha: Beta:

31.11 ± 0.11 44.44 ± 0.11 7= 240.71 dpm

Gamma Rate:

± 5.57 155.20

Gamma:

8.80

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190814154738-E19	0.00	0.00	8.70	0.45	3.46	16.97	213.64
20190814154848-E20	0.00	0.00	8.70	7.20	5.21	16.97	-172.73
20190814154958-E21	0.00	0.00	8.70	2.70	4.12	16.97	77.27
20190814155118-E22	0.00	0.00	8.70	2.70	4.12	16.97	-25.00
20190814155228-E23	0.00	0.00	8.70	4.95	4.70	16.97	-297.73
20190814155338-E24	6.43	4.55	8.70	-1.80	2.62	16.97	-47.73
20190814155448-E25	0.00	0.00	8.70	2.70	4.12	16.97	43.18
20190814155558-E26	0.00	0.00	8.70	0.45	3.46	16.97	122.73
20190814155719-E27	0.00	0.00	8.70	-1.80	2.62	16.97	-229.55
20190814155829-E28	3.21	3.21	8.70	0.45	3.46	16.97	43.18
20190814155939-E29	0.00	0.00	8.70	-1.80	2.62	16.97	-115.91
20190814160049-E30	3.21	3.21	8.70	2.70	4.12	16.97	259.09
20190814160209-E31	0.00	0.00	8.70	2.70	4.12	16.97	-127.27
20190814160319-E32	0.00	0.00	8.70	2.70	4.12	16.97	134.09
20190814160429-E33	0,00	0.00	8.70	-1.80	2.62	16.97	31.82
20190814160539-E34	0.00	0.00	8.70	2.70	4.12	16.97	-195.45
20190814160649-E35 alpha exceeds mda	9.64	5.57	8.70	0.45	3.46	16.97	-13.64
20190814160809-E36	0.00	0.00	8.70	-4.05	1.35	16.97	-104.55
20190814160919-E37	0.00	0.00	8.70	0.45	3.46	16.97	77.27
20190814161030-E38	0.00	0.00	8.70	4.95	4.70	16.97	225.00

Page 2 of 3

Print Date

8/14/2019

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Print Time

4:21:26PM

Batch ID:

TA-53 Samples - 201908141524

Count Date:

8/14/2019 3:24:06PM

Group: Device: Ε

Count Minutes:

1.00

S5XLBG Unit2

Count Mode:

Simultaneous

Batch Key:

8140

Operating Volts:

1335

BC#:

29219321

Gamma Volts:

828

Bldg:

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate: Beta Rate:

0.00 ± 0.00 1.80 ± 0.60

Alpha: Beta:

31.11 ± 0.11

44.44 ± 0.11 Y= 240.71 dom

155.20 5.57

Gamma: 8.80

Gamma Rate:	155.20	2 3.37	Gamma:	0.00			
Sample ID	<u>Alpha</u> (dpm)	<u>Unc</u>	Alpha MDA (dpm)	<u>Beta</u> (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190814161139-E39	0.00	0.00	8.70	-4.05	1.35	16.97	100.00
20190814161259-E40	0.00	0.00	8.70	2.70	4.12	16.97	-2.27
20190814161409-E41	0.00	0.00	8.70	-1.80	2.62	16.97	100.00
20190814161519-E42	0.00	0.00	8.70	-1.80	2.62	16.97	-343.18
20190814161630-E43	0.00	0.00	8.70	9.45	5.67	16.97	54.55
20190814161750-E44	0.00	0.00	8.70	-1.80	2.62	16.97	-47.73
20190814161900-E45	0.00	0.00	8.70	4.95	4.70	16.97	145.45
20190814162010-E46	0.00	0.00	8.70	-4.05	1.35	16.97	65.91



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Reviewed by:

Page 3 of 3

Print Date

8/14/2019

Print Time

4:21:26PM

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Batch ID:

TA-53 Samples - 201908141626

Count Date:

8/14/2019 4:26:51PM

Group:

E

Count Minutes:

1.00

Device:

Count Mode:

S5XLBG Unit2

Simultaneous

Batch Key:

8141

Operating Volts:

1335

BC#:

Gamma Volts:

828

Bldg:

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate: Beta Rate:

0.00 ± 0.00 1.80 ± 0.60 Alpha:

31.11 ± 0.11 44.44 ± 0.11

8 = 240. 81 dpm

Gamma Rate:

155.20 ± 5.57

Soul State

Beta: Gamma:

8.80

Sample ID Alpha MDA <u>Gamma</u> **Alpha** Unc Beta Unc Beta MDA (dpm) (dpm) (dpm) (dpm) (mab) 20190814162651-E3 0.00 0.00 8.70 0.45 3.46 16.97 100.00 20190814162822-E11 0.00 0.00 8.70 2.70 4.12 16.97 -138.64 20190814162932-E30 3.21 3.21 8.70 -1.80 2.62 16.97 213.64 20190814163042-E35 0.00 8.70 4.95 0.00 4.70 16.97 281.82



Reviewed by:

Page 1 of 1

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Print Date

8/14/2019

Print Time 4:32:08PM

Batch ID:

TA-53 Samples - 201908141633

Count Date:

8/14/2019 4:33:16PM

5/16" Stainless Steel

Group:

Count Minutes:

1.00

Device:

S5XLBG Unit2

Count Mode:

Simultaneous

Batch Key:

8142

Operating Volts:

1335

BC#:

Gamma Volts:

Selected Geometry

828

Bldg:

Background (cpm)

Efficiency (%)

Alpha Rate: Beta Rate:

0.00 ± 0.00 1.80 ± 0.60 Alpha:

31.11 ± 0.11 44.44 ± 0.11

7 = 240.81 dpm

Gamma Rate:

155.20 5.57 ±

Beta: Gamma:

8.80

Sample ID

20190814163316-E35

<u>Alpha</u> (dpm) 0.00

<u>Unc</u> 0.00

Alpha MDA (dpm) 8.70

Beta (dpm) 0.45

<u>Unc</u> 3.46 Beta_MDA (dpm) 16.97

Gamma (dpm) 134.09

All Smears<MDALimits

Page 1 of 1

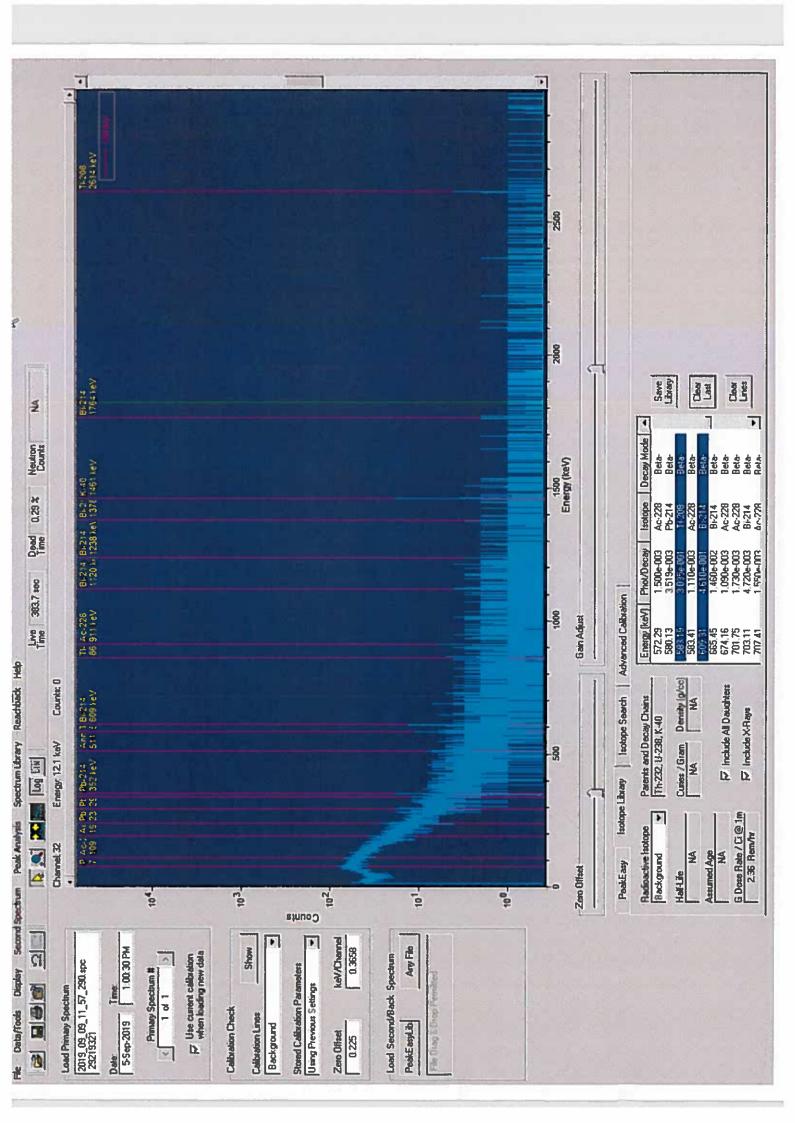
C:\Users\Canberra\AppData\Locai\Temp\LANL sample report {CAED7905-AF0}

Print Date

8/14/2019

Print Time

4:34:53PM



S Los Alamos

Cal. Due Date: ø1.06-20 Location: TA-53, MPF-3R, Rm. 141 **BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG** Eberline Model: ESP-1 HSE# (P/N): 1481 Instrument Manufacture: - EST.1943 -

METAL CLEARANCE METAL CLEARANCE METAL CLERRANCE METAL CLEARANCE METAL CLEMPANCE D38-00 2536 Comments ± 20%:7216 to 10 B24dpm Reference: 9020 dpm Check Source 2.6µci D-38 ID #: sotope: Activity:_ Printed Name/Signature Z Number L. SHARISKY L. SHARISKY L. SHARIGICY L.SHARKDY L. SHRKKY N/A Ν 4 Pass/Fail PASP PAGS PAGG PAGG 25.55 Ϋ́ Check Source Reading ž ന 9202 9 ०५५ 9273 9185 914 Net Reference Reading Scale 4 N N N/A N ₹ 2 42 12 4/7 ₹ N Acceptance Range (± 20%) 842 dpm/ 1336 dpm Net Reference Reading Scale 3 Filter Position or Range: Open Scale dpm 12 **RCT Name** ₹ 2 4 かい **₹** 5111 L. SHMRISKY Reference Reading: 1800 Net Reference Reading Scale 2 Net Reading: くて **<**2 1 ₹ 2 ¥_N Net Reference Reading Scale 1 o3 APR vel Date Reference Readings Established 1122 1265 1538 1291 11.4 Background Reference Source 917 **777** 80 265 Activity: 40 83uci Bkg: 195 dpm \bar{z} K-323 Sr 10030 0000/ 0220 0000 0890/ Isotope: 3ANGIA Date/Time 1 61 9WZ 14AWG191 or Autold

RadEye SX/L44-3 Performance Test Log

Count time: 60 seconds Cal Due Date: 2-6-20 Instrument PN: 1503 Rm: 141 RadEye SX /Ludlum 44-3 — EST.1943 — TA: 53

Reference Readings

Model:

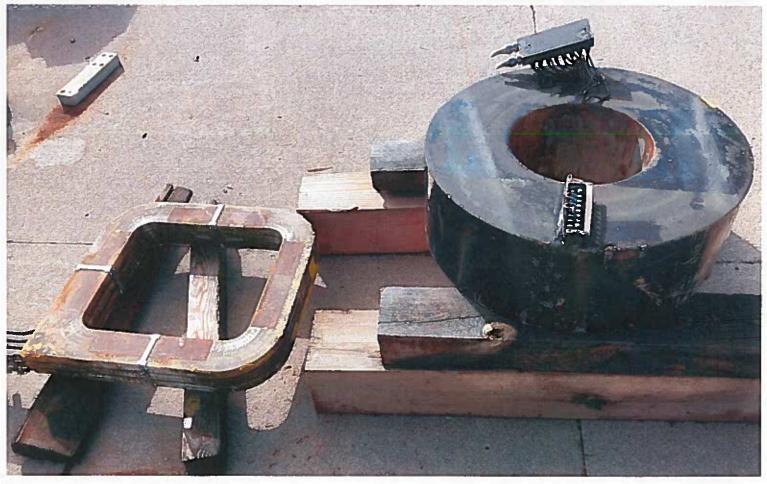
Check Sources	Isotope	#Q1	Activity (dpm)	60 Second Bkg (cpm)	Gross Check Source N	Net Check Source (cpm)	Expected -20% (cpmx0.8)	Expected +20% (cpmxl.2)
	5, 440	16-323	40.834C	279	10,000	12t b	7,777	11.665

Signature: 122536 Date Reference Readings Established: 6-24-19 RCT name: B. MOOLE.

Performance Test Requise

RCTZ RCT Name
322536 B. Wagne
Pass 322536 B. Mobile
Pass 1322536 B. Manie
322536 3.
Pass 322536 B. Morre
331139 ADK482
336582 L. SHARISEY
226582 L. SHARISKY
23ucto. L. Shareky
BBUSB2 L. SHAREKY









Date/Time:			Item Barcode Numbers	
05.02.2019/14:	15			
Photo File Nam	e:		29229453	
tem Descripti	on, including any process and	historical knowled	ige	
One Metal B	lock with four Eye-Bolts on	top – Light blue in	color	
Evaluation				
Survey	Below release criterion? (Y/N)	Releasable? (Y/N)		
Direct Beta	Y	Y	#	
Smear	Υ	Y		
Direct Gamma	Υ	Υ		
~	<u> </u>			
Comments				
Does not app	pear to be a beam line comp	ponent		
Laurel J		OD B	336582 05.08.201	19
RCT N	lame ()	Signature	Z-Number Date	
Kelsey	N Neal Mad	Ruh	331301 321301 15.5.19 05.08.201	L9
RCT N		Signature	Z-Number Date	
M. D	uran — he	Our	106440 9 \ 1 1	9
HPFC Ri	eviewer	Sianature	Z-Number Date	

Item Release Survey—Direct Beta and Gamma Survey

Date: 05.02.2019	Time: 1415	No. samples: 12
TA: 53	Building: 365	Room: Parking Lot
L. Sharisky	Que l	336582
RCT Name	Signature	Z Number
K. Neal	Then New	331301
RCT Name	Signature	Z Number

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7488	7488	01.08.2020	195	30%	128.55

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15065	15065	01.20.2020	78.4	120

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	82
2 //	89
3	79
4	69
5	73
Average	78.4

Survey Results

Survey Area	item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	Top Surface	185	Y [1-2]	67	Y
2	Side (Ease Facing)	165	Y [3-4]	50	Υ_
3	Side (North Facing)	195	Y [5-6}	79	Y
4	Side (West Facing)	153	Y [7-8]	75	Y
5	Side (South Facing)	120	Y [9-10]	80	Υ
6	Bottom Surface	120	Y [11-12]	68	Y
N/A	END OF SURVEY	N/A	N/A	N/A	N/A
一	T	T	٦	7	T
					- (
L					
N/A	N/A	N/A	N/A	N/A	N/A

Survey Area	Item/Area	Direct (dpi		Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
N/A	N/A	N/		N/A	N/A	N/A
T	T	T		Ī	T	T
					V	
		3				
				1		
			_			
				36		
	.8					
						1
N/A	N/A	N/A	A	N/A	N/A	N/A

Batch ID:

TA-53 Samples - 201905021512

Group:

E

Device:

S5XLBG Unit2

Batch Key:

7053

BC#:

Bldg:

29229453

RP Tracking Number

29229453

Count Date:

5/2/2019 3:12:15PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm) Efficiency (%)

Alpha Rate:

0.00 ± 0.00 0.60 1.80 ±

Alpha: Beta:

31.11 ± 0.11

0.11

44.44 ± 7 = 248 7b

Beta Rate: Gamma Rate:

155.20

5.57 ±

Gamma:

8.80

Sample ID **Alpha** Unc Alpha MDA Beta Unc **Beta MDA Gamma** (dpm) (dpm) (dpm) (dpm) (dpm) 20190502151215-E1 0.00 0.00 8.70 2.70 4.12 16.97 -13.64 20190502151516-E2 3.21 3.21 8.70 4.70 4.95 16.97 -252.27 20190502151626-E3 3.21 3.21 8.70 7.20 5.21 16.97 -36.36 20190502151736-E4 0.00 0.00 8.70 -4.051.35 16.97 281.82 20190502151856-F5 0.00 0.00 8.70 9.45 5.67 16.97 111.36 20190502152006-E6 0.00 0.00 8.70 0.45 3.46 16.97 202.27 20190502152116-E7 0.00 0.00 8.70 0.45 3.46 16.97 270.45 -20190502152226-E8 3.21 3.21 8.70 0.45 3.46 16.97 -13.64 20190502152346-E9 0.00 0.00 8.70 0.45 3.46 16.97 -104.55 20190502152456-E10 0.00 0.00 8.70 -4.05 1.35 16.97 -25.00 20190502152606-E11 0.00 0.00 8.70 0.45 3.46 16.97 259.09 20190502152716-E12 0.00 0.00 8.70 -4.05 1.35 16.97 213.64

kil Smears<MDALimits

EXCEPT SMEAR # 4, # 7, # 11 2

Reviewed by:

Laurel J. L.

SHARISKY

Page 1 of 1

Print Date

5/2/2019

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {A05A918C-3A7(

Print Time

3 28 32PM

Batch ID:

TA-53 Samples - 201905021541

Group:

BC#:

Bldg:

Device:

S5XLBG Unit:

Batch Key:

7054

29229453

RP Tracking Number

Count Date:

5/2/2019 3:41:01PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate: **Beta Rate:**

0.00 1.80

0.00 ± 0.60 Alpha: Beta:

31.11 ± 0.11

44.44 ± 0.11

T = 248.76

Gamma Rate:

155.20

5.57

Gamma:

8.80

Efficiency (%)

Sample ID Alpha MDA <u>Alpha</u> <u>Unc</u> <u>Unc</u> **Beta** Beta MDA **Gamma** (dpm) (dpm) (dpm) (dpm) (dpm) 20190502154101-E1 0.00 0.00 8.70 0.45 3.46 16.97 9.09 20190502154232-E2 0.00 0.00 8.70 -4.05 1.35 16.97 -104.55 20190502154342-E3 0.00 0.00 8.70 2.70 4.12 16.97 88.64

#4 smear from first count

smear from first count

Smears<MDALimits

Reviewed by

Page 1 of 1

HARIGKY

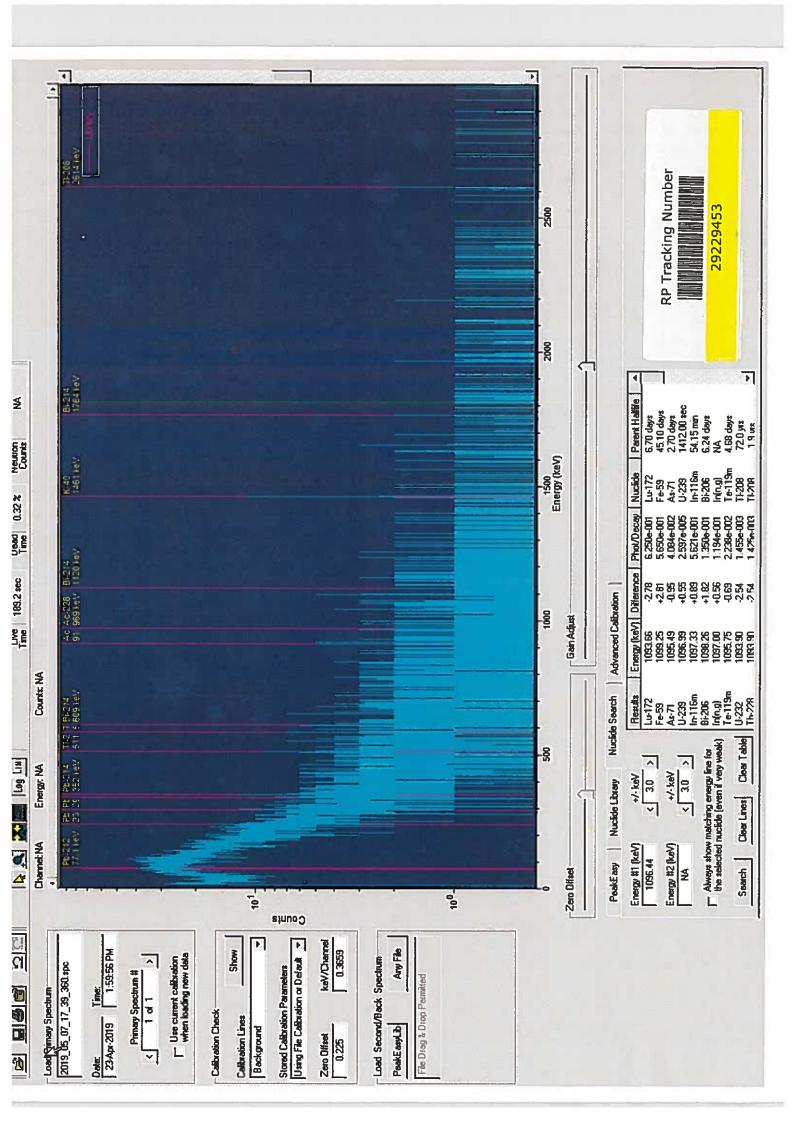
C:\Users\Canberra\AppData\Local\Temp\LANL sample report {CA3A98EE-F17!

Print Date

5/2/2019

Print Time

3:44:57PM





NALIONA	NALIONAL LABORATORY	1)
TA: 53	Bldg: 3.R	Rm:: 4	Instrument PN: 15065	Cal Due Date: - 7-20	
Model: RadEye	RadEye SX /Ludium 44-3				Count time: 60 seconds

Reference Readings

Expected +20%	(cpmxl.2)	025-412	14,(88
Expected -20%	(cpmx0.8)	9-180 PAT-14-080	9,458
Net Check Source	(cbm)	11,823	
60 Second Bkg Gross Check Source Net Check Source	(cbm)	12,100	,
60 Second Bkg	(cbm)	277	
Activity	(dpm)	40.834C;	
10#		K-323	
Isotone	odoroci	St.790	
Check Sources			

Z-number: 322536

Signature: Meen M

υ
esult
est R
nce T
orma
Perf

Date Reference Readings Established: 2-21-19 RCT name: B. MOOK

qs		1		_			<u> </u>	Т	_		_	_	Т
Background / Sample Count Time: 60 seconds	Comments	First test	Tariet 4	MATTER POLOGIO	METAL CIPADANA								
Background	RCT Signature	Matter Al	11/	Though man	Po Dolla	20 10 10 10 10 10 10 10 10 10 10 10 10 10							
	RCT Name	B. Moore	J, U.z.	l	L. SHARISKY								
	RCTZ Number	322556	2020	799894	556582		·						
	Pass/ Fall	9455	Pare	Pass	PASS								
282	Net Check Source (cpm)	11,813	75.0.7	11,330	11, 1005								
nits	Background Gross Check (cpm) (cpm)	12,100	(ريع)	1 16MJ 1.330	11900	* 10 1							
I EST LES	Background (cpm)	277	234	270	295					,			
renomiance lest Results	Date/Time	2-21-1901445 277	pre constrolle	4.15.1922col 270	5.02.19 1145 295								

Los Alamos
 NATIONAL LABORATORY

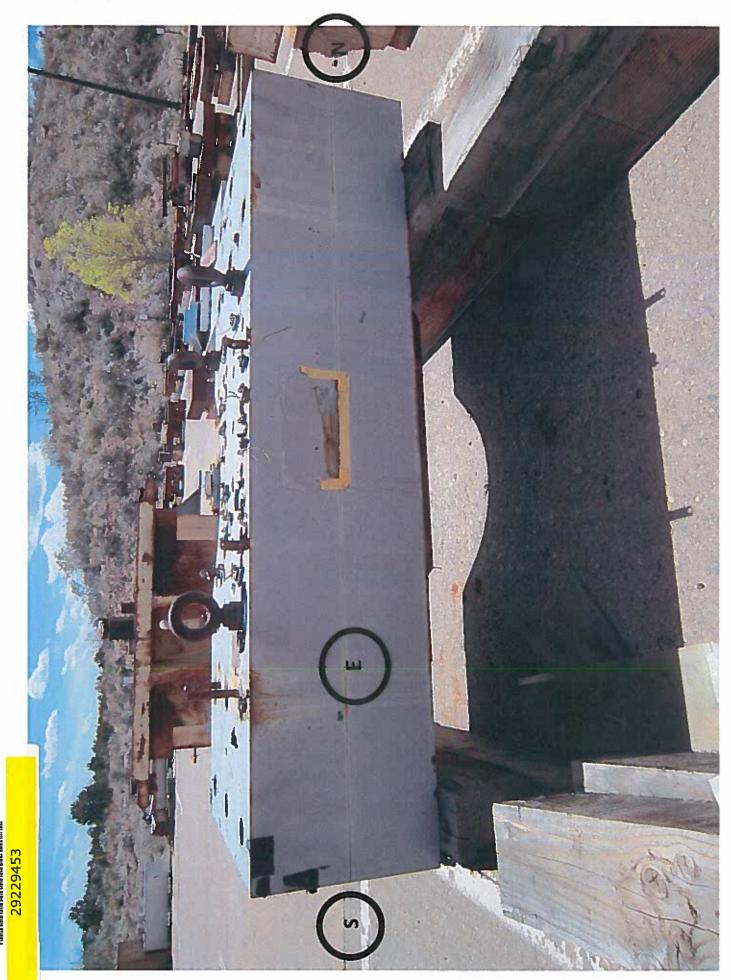
Eberline

Instrument Manufacture:____

BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG

Model: ESP-1 HSE# (P/N): ロロコール Cal. Due Date: ロンクロン Location: TA-53, MPF-3R, Rm. 141

MONTHA B) METH CLEARANCE D38-00 1274 Comments ± 20%: 72.10 to 105/24dpm Check Source 2.6uci D-38 Reference: 9020 ∏# CI Isotope:_ Activity:_ Printed Name/Signature LAWREL SHABAY Z Number Z Number Z/A ž Pass/Fail PASS Ϋ́ Ϋ́ Sighature Check Source Reading 9000 Net Reference Reading Scale 4 N/A N/A ۵ الا الا Acceptance Range (± 20%) 892 dpm/ 1338dpm Net Reference Reading Scale 3 Filter Position or Range: Open Scale dpm dpm LAUREL 3 SHARISCY RCT Name ムンス 1310 1115 Net Reference Reading Scale 2 Reference Reading: Net Reading: **4**2 Net Reference Reading Scale 1 Date Reference Readings Established 149 Background Reference Source Bkg: १९५5 dpm (२००-३०० ।विद्या) Activity: 40.83uci 7 K-323 S S 02 MAY/1300 lsotope: Date/Time





Date/Time:		"-		Item Barcode N	umbers
05.08.2019/100	00				
Photo File Nam	e:			292294	190
Item Descripti	on, including any process and	historical kn	owled	lge	
Two pastel gree	en, crescent metal arches				-
		9 <	R 	P Tracking Number 29229490	Y
Evaluation		·			
Survey	Below release criterion? (Y/N)	Releasable?	(Y/N)		
Direct Beta	Υ	Y	1		
Smear	Υ	Y			
Direct Gamma	Υ	Y			
Comments					
Two pastel gree	en, crescent metal arches;	-			
Both componer	its do not appear to have been di	ectly exposed	to the	e beam;	
L. Sha RCT N K. N	lame January 03	ignature	V	336582 Z-Number 331301	05 . 14.19 Date 5. 14.19
RCT N		ignatule		Z-Number	Date
M. Du		Ouv- ignature		106440 Z-Number	9 11 1 9 Date

Item Release Survey—Direct Beta and Gamma Survey

Date: 05.08.2019	Time: 0845	No. samples: 20
TA: 53	Building: 365	Room: Parking Lot
L. Sharisky	Lound of de	336582
RCT Name	Signature	Z Number
K. Neal	they man	331301
RCT Name	Signature /	Z Number

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7488	7488	01.08.20	227	30%	137.91

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15028	15028	08.09.2019	61	95

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	65
2	61
3	55
4	57
5	67
Average	61

RP Tracking Number

Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	Top Side; Item A	290	Y [1-5]	65	Y
2	Bottom Side; Item A	175	Y [6-10]	83	Y
3	Top Side: Item B	217	Y [11-15]	70	Υ
4	Bottom Side; Item B	209	Y [16-20]	87	Y
N/A	End of Survey	N/A	N/A	N/A	N/A
T	T	T	T	T	T
		1			
N/A	N/A	N/A	N/A	N/A	N/A

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
N/A	N/A	N/A	N/A	N/A	N/A
T	T			7	1
	RP Tracking Number				
\perp	29229490				
\perp					
	-				
_					
-					
					_ _
1-					
			_	<u></u>	
N/A	N/A L	N/A	N/A	N/A	N/A

Batch ID:

TA-53 Samples - 201905081405

Group:

Bldg:

Device: **Batch Kev:**

Sample ID

20190508142455-E16

20190508142605-E17

20190508142726-E18

S5XLBG Uni

<u>Unc</u>

7107

BC#: 29229490 RP Tracking Number

29229490

Count Date:

5/8/2019 2:05:04PM

Gamma

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Unc

Selected Geometry 5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate: **Beta Rate:**

0.00 ± 0.00 1.80 ± 0.60 Alpha: Beta:

31.11 ± 0.11

Beta

0.11

44.44 ±

 $\pi = 241.25$

Beta MDA

Gamma Rate:

± 5.57

Gamma:

Alpha MDA

8.80

155.20

Alpha

0.00

0.00

3.21

0.00

0.00

3.21

(dpm) (mqb) (dpm) (dpm) (dpm) 20190508140504-E1 3.21 3.21 8.70 0.45 3.46 16.97 -93.18 20190508140805-E2 0.00 0.00 8.70 0.45 3.46 16.97 168.18 20190508140915-E3 3.21 3.21 8.70 7.20 5.21 16.97 247.73 20190508141025-E4 0.00 0.00 8.70 7.20 5.21 16.97 236.36 20190508141145-E5 3.21 3.21 8.70 0.45 3.46 16.97 -195.45 20190508141255-E6 0.00 0.00 8.70 0.45 3.46 16.97 -172.73 20190508141405-E7 0.00 0.00 8.70 -4.05 1.35 16.97 304.55 -20190508141515-E8 3.21 3.21 8.70 -1.80 2.62 16.97 338.64 20190508141635-E9 0.00 0.00 8.70 0.45 3.46 16.97 111.36 20190508141745-E10 0.00 0.00 8.70 -1.80 2.62 16.97 122.73 20190508141855-E11 0.00 0.00 8.70 2.70 4.12 16.97 20.45 20190508142005-E12 3.21 3.21 8.70 0.45 3.46 16.97 88.64 20190508142115-E13 3.21 3.21 8.70 4.95 4.70 16.97 -81.82 20190508142235-E14 3.21 3.21 8.70 4.95 4.70 16.97 -47.73 20190508142345-E15 0.00 0.00 8.70 0.45 3.46 16.97 122.73

Page 1 of 2

8.70

8.70

8.70

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {0D78D318-85AA

2.70

-1.80

-4.05

4.12

2.62

1.35

Print Date

16.97

16.97

16.97

5/8/2019

65.91

-252.27

31.82

Print Time 2:31:01PM Batch ID:

TA-53 Samples - 201905081405

Count Date:

5/8/2019 2:05:04PM

Group:

Ε

Count Minutes:

1.00

0

Device:

S5XLBG Unit2

Count Mode:

Simultaneous

Batch Key:

7107

Operating Volts:

1335

BC#:

29229490

Gamma Volts:

828

Bldg:

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate: Beta Rate: 0.00 ± 0.00 1.80 ± 0.60

Alpha: Beta: 31.11 ± 0.11 44.44 ± 0.11

V = 241.25

Gamma Rate:

155.20 ± 5.57

Gamma:

8.80

MDA Gamma

<u>Sample ID</u> 20190508142836-E19 Alpha (dpm) 3.21 <u>Unc</u> 3.21 Alpha MDA (dpm) 8.70 Beta (dpm) -1.80 <u>Unc</u> 2.62 Beta MDA (dpm) 16.97 <u>Gamma</u> (<u>dpm</u>) 236.36

20190508142946-E20

0.00

0.00

8.70

-1.80

2.62

16.97

213.64

RP Tracking Number



29229490

All Smears<MDALimits

of except shear 3, 47, #8

Reviewed by:

Page 2 of 2

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {0D78D318-85AA

Print Date

5/8/2019

Print Time

2:31:01PM

Batch ID:

TA-53 Samples - 201905081441

Count Date:

5/8/2019 2:41:54PM

Group:

E

Count Minutes:

1.00

Device:

S5XLBG Unit2

Count Mode:

Simultaneous

Batch Key:

7109

Operating Volts:

Selected Geometry

1335

BC#:

828

Bldg:

Gamma Volts:

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate:

0.00 ± 0.00 1.80 ± 0.60 Alpha:

31.11 ± 0.11 44.44 ± 0.11 8 = 241.25

Beta Rate:

155.20 5.57 Beta:

8.80

Gamma:

Gamma Rate:

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190508144154-E1	3.21	3.21	8.70	2.70	4.12	16.97	31.82
20190508144325-E2	0.00	0.00	8.70	0.45	3.46	16.97	9.09
20190508144435-E3	3.21	3.21	8.70	4.95	4.70	16.97	-195.45

RP Tracking Number

3 smear from first count.

smear from first count

B smear from first count }

All Smears < MDALimits

- Source Lather 5.8.19

Reviewed by:

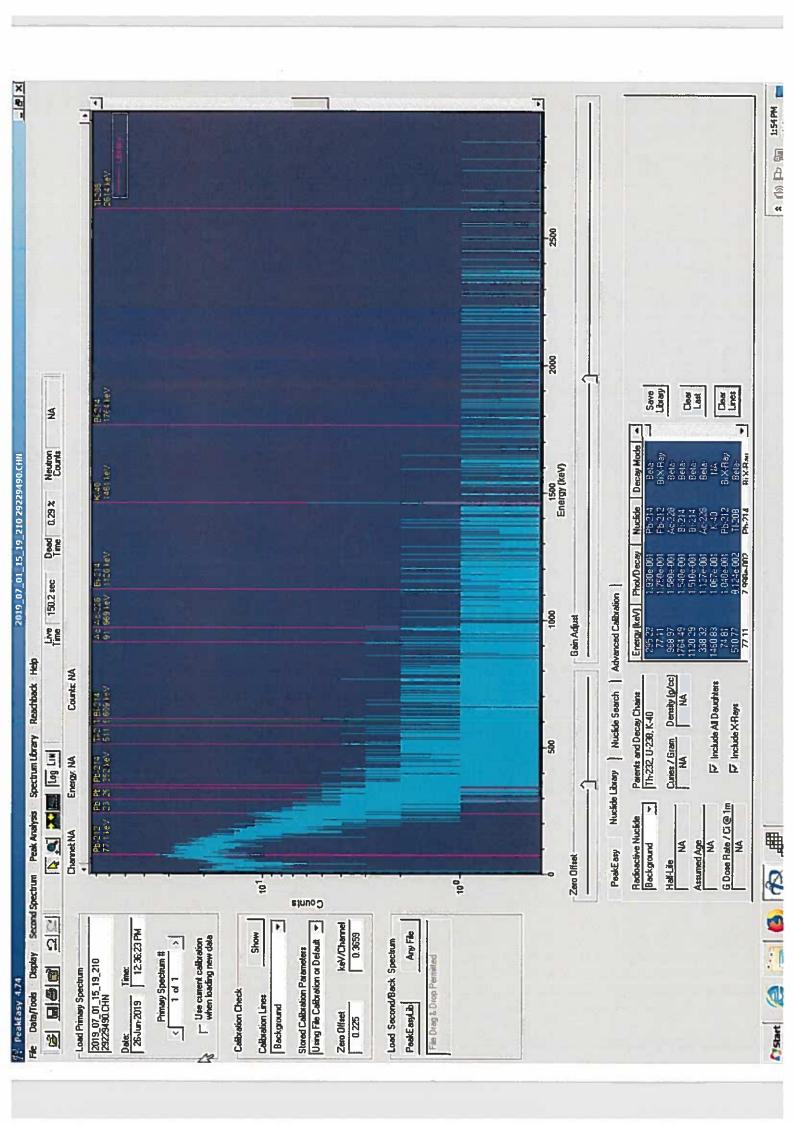
SHARUKY

Page 1 of 1 C:\Users\Canberra\AppData\Local\Temp\LANL sample report {9EFB4B2B-AE3| **Print Date**

5/8/2019

Print Time

2:45:50PM



RadEye SX/L44-3 Performance Test Log

A: \$3	Bldg:	312	Rm:	(111)	Instrument PN: 15029	Cal Due Date:	6/10/16	Paroe (B) count fine
								Communic. Co second

Reference Readings

				1000					
ack Sources	Isotope	11.7	ACHANIA	60 Second BKg	60 Second Bkg Gross Check Source Net Check Source	Net Check Source	Expected -20%	Expected +20%	_
		1 20	(uidp)	(cbm)	(cbm)	(chu)	(cpmx0.8)	(cpmxl.2)	_
	Sr 10	4323	40. Bluc.	256	0017	77844	9,47X	14213	
					6				

Date Reference Readings Established 11/14/11

RCT name D. (ORIN

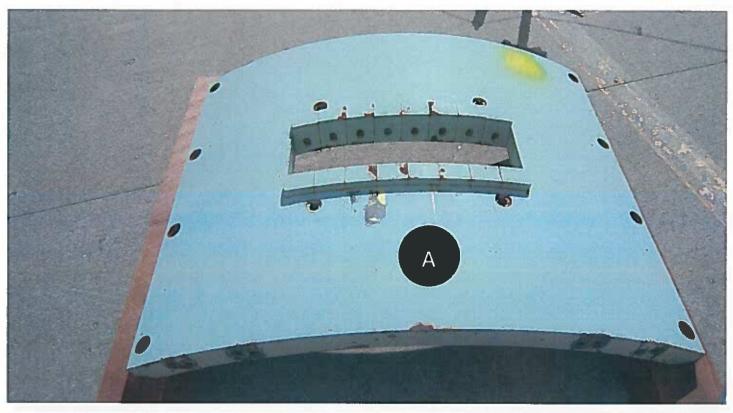
Performance Test Results	Test Res	ults					Background	Background / Sample Count Time: 60 seconds
	Barkground	Gross Check	Net Check		DOT:			
Date/Time	(cpm)	_	Source	Pass/ Fall	Number	RCT Name	RCT Signature	Comments
		(cbm)	(cpm)					
LIFM @ ODOO	The	\\ \\	1840	hass	324700	0.00ch	KQ	
2/12/14 1030	316	11.9 K	11552	PASS	331239	B. Abrasi	Z	
4/1/19 6 1300	310	11.900	11590	Pars	32thor	D. (376v)	# De	
4-2-40/07-2-4	314	11,800	11,486	f ass	કાકાક વ	M. Muscavella	TOWN TWO	
7-3-10 /0805	162	11,700	11,409	7055	315139	A MUSCARILO	WAY MAN	
1-4-14/0735	212	1, 700	11,388	Pass	515130	14- MUSCare/10	MATHAN	
4-16-19 10735	308	11,600	11,292	7005	515139	M. Hyscandla	WWW/	
4/25/10 C 36.	71/	11.80	11.72	Dat	<i>سدر</i> ز	1.03		je je
5/13/19 @ 1230 258	258	00617	11642	PASS	336587	L.SHAMSK4	John Mary	
5.14.19 @0800	רריז	11900	11 1023	PASS	2316 B2	L. SHARJEKY	Bell Com	Mera. Ciphonics
							60	
		ů.						
		ali						

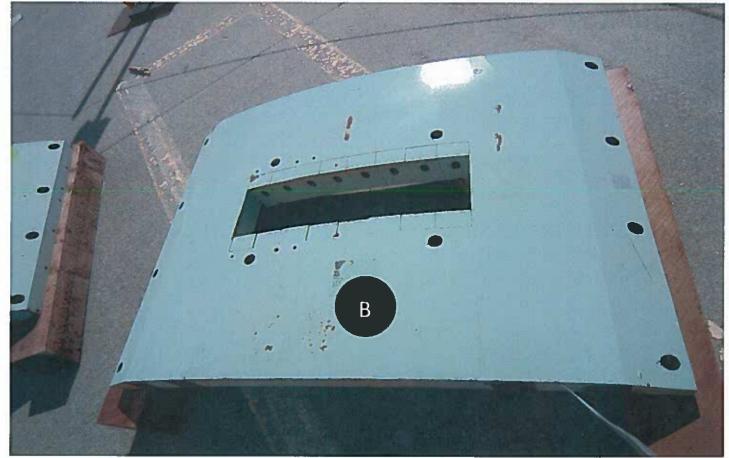
- EST.1943 -

Los Alamos BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG

Cal. Due Date: \$1/08/25 Location: TA-53, MPF-3R, Rm. 141 D38-00 1477 ± 20%: 7216 to 105:24dpm Check Source Reference: 9020 dpm 2.6uci D-38 ID #: Isotope:_ Activity:_ SHARGEN 3316892 ΥX N/A Ν Ϋ́ Signature HSE# (P/N): 001 485 XX Ϋ́ N Acceptance Range (± 20%) 892 dpm/ 1338dpm Filter Position or Range: Open Scale Model: ESP-1 dpm Reference Reading: 1310 dpm LAUREL 3 SHARISKY RCT Name 1115 Net Reading: Instrument Manufacture: Eberline บรลงณา Date Reference Readings Established Reference Source Bkg: אוה dpm (200 - 300 וכן פיון) Activity: 40.83uci Isotope: Sr⁹⁰

Comments	Petra Cosposition (Assessment	OHEGE METAL CLENEMICE	Werra.							
Printed Name/Signature	10	Sulles	L'SHARISIN OP. BARRE		しつり					
Pass/Fail	 	PAGS	PASS							
Check Source Reading	9000	2048	F318							
Net Reference Reading Scale 4	N/A	N/A	4/2			Î				
Net Reference Reading Scale 3	N/A	11/14	N/A							
Net Reference Reading Scale 2	N/A	N/A	N/A							
Net Reference Reading Scale 1	1149	1085	12.87							
Background	211	195	213							
Date/Time	02MAY/1300	DE MANIE/OGIO	COMATION /082D							







		-	
Date/Time:			Item Barcode Numbers
05.14.2019/09			
Photo File Nam	e:		29229521
Item Description	on, including any process and	historical knowle	dge
Alpha Package (365 lot):		
A1 = 300 lbs shi	eld block		
A2 = 260 lbs shi	eld block		
A3 = 4000 lbs sh	nield block		
A4 = 1414 lbs st	nield block		
A5 = 2X75 lbs sh	nield block (Weight not fully legibl	e)	
Evaluation			
Survey	Below release criterion? (Y/N)	Releasable? (Y/N)	
Direct Beta	Υ	Υ	
Smear	Υ	Y	
Direct Gamma	Y	Y	
Comments			
All items survey	ed are shield blocks of various we	eights and sizes;	
All items were r	not in the direct path of the beam,	;	
L. Sha	risky 200	SA B	336582 21MAY19
RCT N		ignatur	Z-Number Date
K. N	leal ///	12511	331301 5.21.19
RCT N	7-14-14-1	ignature	Z-Number Date
	•	\wedge	111111
M. D.		e Nuvignature	7 106440 9 11 1 9 Date

Item Release Survey—Direct Beta and Gamma Survey

Date: 05.14.2019	Time: 0945	No. samples: 23
TA: 53	Building: 365	Room: Parking Lot
L. Sharisky	Could All &	336582
RCT Name	Signature /	Z Number
K. Neal	Ther Man	331301
RCT Name	/ Signature/	Z Number

Instrument Information

Eberline ESP-1 with HP260

1	ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
	7488	7488	01.08.2020	159	30%	117.05

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15028	15028	08.09.2019	73.2	115

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	81
2	71
3	79
4	71
5	64
Average	73.2

RP Tracking Number

29229521

Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	A1 Top Side	241	Y [1-2]	79	Y
2	A1 Bottom Side	165	Y [3-4]	98	Y
3	A2 Top Side	181	Y [5-6]	69	Y
4	A2 Bottom Side	151	Y [7-8]	84	Υ
5	A3 Top Side	240	Y [9-12]	66	Y
6	A3 Bottom Side	191	Y [13-15]	91.5	Υ
7	A4 Top Side	265	Y [16-17]	79	Υ
8	A4 Bottom Side	198	Y [18-19]	95	Y
9	A5 Top Side	228	Y [20-21]	78	Y
10	A5 Bottom Side	198	Y [22-23]	82	Υ
N/A	End of Survey	N/A	N/A	N/A	N/A

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less that DL? (Y/N
N/A	N/A	N/A	N/A	N/A	N/A
1	T		T		7
	RP Tracking Number				
				-	
	29229521				
	10				
\top					
\top					
					\vdash
\top					-
\top					
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+					
					+
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	N/A	N/A	N/A	N/A	N/A

PIC WPC-9550

5/14/2019 2:20:01 PM

Routine 1 ROUTINE 1 Batch ID: 29229521

Alpha MDA = 18.264 dpm

Beta MDA = 16.019 dpm

Gamma MDA = 881.510 dpm x

442,98 dpm

Alpha BKGD = 0.367

BETA BKGD = 1.000

GAMMA BKGD = 197.700

ALPHA EFF. = 0.2751 ALPHA F = 1.00

BETA EFF. = 0.3960 BETA F = 1.00

GAMMA EFF. = 0.0567 GAMMA F = 1.00

Count Time = 1.00 mins BKGND Count Time = 30.00 mins

SC#	ID	SAMPLE None	ALPHA CPM	BETA CPM	GAMMA CPM	ALPHA dpm/Sample	BETA dpm/Sample	GAMMA dpm/Sample
	Sample1 Sample2	1.000E+00 1.000E+00	0.000	2.000		-1.333E+00 -1.333E+00		-4.000E+02
	Sample3	1.000E+00	0.000	7.000	172.000	-1.333E+00	1.515E+01	9.340E+01 -4.529E+02
	Sample4 Sample5	1.000E+00 1.000E+00	0.000 0.000	5.000 2.000		-1.333E+00 -1.333E+00		-1.357E+02 -1.709E+02
	Sample6 Sample7	1.000E+00 1.000E+00	0.000	7.000 0.000		-1.333E+00 -1.333E+00		-1.181E+02 -2.414E+02
	Sample8	1.000E+00	0.000	3.000	186.000	-1.333E+00	5.050E+00	-2.062E+02
	Sample9 Sample10	1.000E+00 1.000E+00	0.000 0.000	6.000 2.000	192.000 183.000	-1.333E+00	2.525E+00	-1.004E+02 -2.590E+02
	Sample11 Sample12	1.000E+00 1.000E+00	0.000 4.000	0.000 5.000	218.000 203.000	-1.333E+00 1.321E+01	-2.525E+00 1.010E+01	3.577E+02 9.340E+01
	Sample13 Sample14	1.000E+00 1.000E+00	1.000 1.000	0.000 4.000	195.000 192.000	2.302E+00 2.302E+00		-4.758E+01 -1.004E+02
	Sample15 Sample16	1.000E+00 1.000E+00	1.000 1.000	6.000 3.000	186.000 195.000	2.302E+00 2.302E+00	1.262E+01 5.050E+00	-2.062E+02 -4.758E+01
	Sample17	1.000E+00	0.000	5.000	187.000	-1.333E+00	1.010E+01	-1.886E+02
	Sample18 Sample19	1.000E+00 1.000E+00	0.000 1.000	3.000 0.000	195.000 221.000	-1.333E+00 2.302E+00	-2.525E+00	4.106E+02
	Sample20 Sample21	1.000E+00 1.000E+00	0.000 1.000	6.000 3.000	196.000 178.000	-1.333E+00 2.302E+00	1.262E+01 5.050E+00	
	Sample22 Sample23	1.000E+00 1.000E+00	0.000 1.000	3.000 2.000	201.000 196.000	-1.333E+00 2.302E+00	5.050E+00 2.525E+00	5.815E+01 -2.996E+01

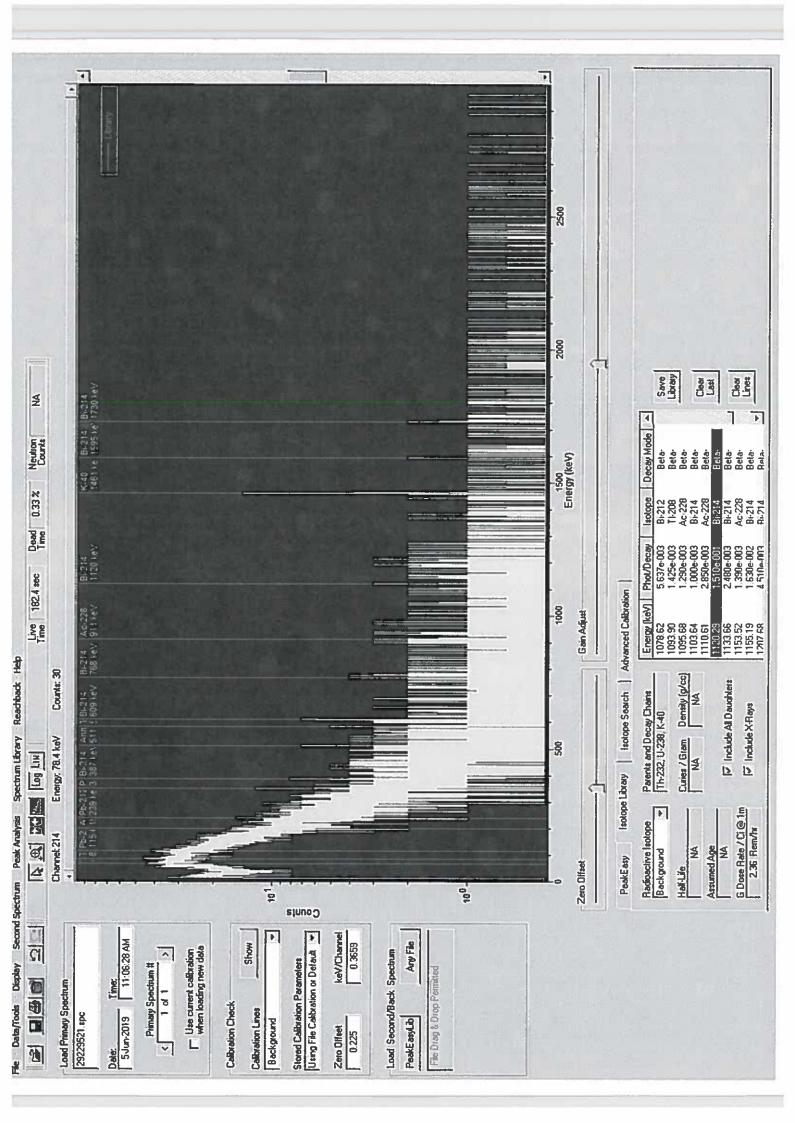
Reviewed By:

Date: 5.14.19

RP Tracking Number

29229521

All Smears<MDALimits





RadEye SX/L44-3 Performance Test Log

Count time: 60 seconds Cal Due Date: Instrument PN: 1502y R 3/2 RadEye SX /Ludlum 44-3 Model

Reference Readings

Reference	Reference Readings		O	00				
Check Sources	Isotope	#CI	Achvity (dpm)	60 Second Bkg (cpm)	60 Second Bkg Gross Check Source (cpm) (cpm) (cpm)	Net Check Source (cpm)	Expected -20% (cpmx0.8)	Expected +20% (cpmxl.2)
	Sr40	K323	40. Bluc.	256	12,100	11844	9,4715	14213

RCT name D. (Oak

Z-number 3242.

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Date Reference Readings Established: 11/14/10.

	10311103	CIE					Background,	Background / Sample Count Time: 60 seconds
Date/Time	Background (cpm)	Gross Check Source (cpm)	Net Check Source (cpm)	Pass/Fall	RCTZ Number	RCT Name	RCT Signature	Comments
115M @ 0200	Tho	CO\$ \\	1841	45°	324700	D.(0.8h	60	
2/12/14 1030	318	11.9 12	11582	PASS	331239	B. Abhar	Z	
4/1/19 6 13.30	310	11.900	1150	Pars	37than	-	Ą	
4-2-19/07-2-4	7115	078'N	11,486	TASS	કાફાક વ	4	MAN MAN	:
4-3-10/0805	162	305,11	11,409	7055	315139	315139 A MUSCAPELLON	W T MAN	
1-4-14/0735	218	11, FUS	11,388	Pass	515130	14. Muscarella	MATHAN	
4-16-19 10735	308	11,630	11,292	2007	515139	M. Hyscardla	MAN CAM	
١٤/٠٠/١٥ هـ ١٤٠٠	ועל	11.80	11.53	Dat	<i>ىددا</i> ر	1,00		رث ا
5/13/19 @ 1230 258	258	00617	11 642	PASS	334587	336587 L. SIARISK4	Dest state	
5.14.19 @0800	277	11900	11 623	PASS	336502	L. SHARISKY	Las Las	METAL CLERANCE
							60 4 /	

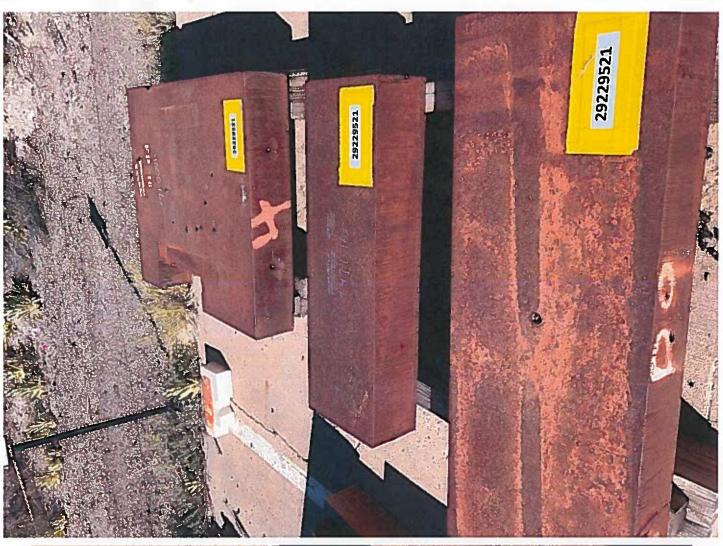
Los Alamos BET
 NATIONAL LABORATORY

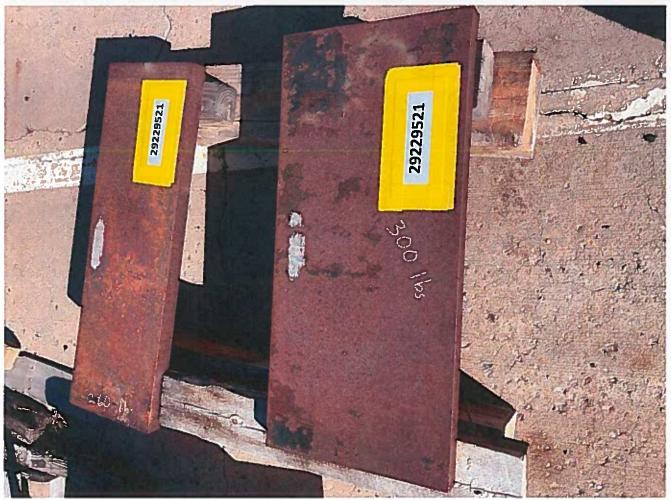
BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG

Instrument Manufacture: Eberline

Cal. Due Date: 01/08/20 Location: TA-53, MPF-3R, Rm. 141 Model: ESP-1 HSE# (P/N): 001488

METH CLEARANCE / MONTHLY OHEGE METAL CLERONICE METAL CLENRANCE D38-00 セイル Comments ±20%:721/6 to 108:24dpm dpm Check Source 2.6µci D-38 Reference: C1020 .. ⊈ □ Isotope:_ Activity:_ Printed Name/Signature 30 SHAPISKY 330592 Z Number LANREL SHABBER L-SHARISKY L. SHARISKY L'SHARLERY N/A N/A 4 Pass/Fail PASS PAGS PA 55 PASS N/A Ν Check Source Reading Signature 8767 9000 2068 8362 Net Reference Reading Scale 4 Υ N N/A Q الا الا 4/2 4/2 **الا** Acceptance Range (± 20%) 892 dpm/ 1538dpm Net Reference Reading Scale 3 Filter Position or Range: Open Scale dpm dp LAUREL J SHARISKY なくな 4/2 RCT Name 4/2 4/2 1115 Reference Reading: 17310 Net Reference Reading Scale 2 Net Reading: ₹ 2 くて 4 2 せつ Net Reference Reading Scale 1 Date Reference Readings Established 1149 1085 12.37 1043 Background Reference Source Bkg: 415 dpm (200-300) icheil) 213 Activity: 40.83µci 195 717 157 K-323 Sr⁹⁰ 02 MAY/1300 PIPO/PINAM DO HMAT 17 /0800 OBMAYIA/082D sotope:







Date/Time:			Item Barcode Numbers
05.15.2019	0805		
Photo File Nam	ie:		29229538
tem Descripti	on, including any process and	historical know	wledge
Bravo Package	(365 lot):		200
B1 = 970 lbs shi	ield block		
B2 = 2430 lbs sl	hield block		
B3 = 2975 lbs sl	hield block		
B4 = 2935 lbs sl	hield block		
B5 = 1070 lbs sl	hield block		
B6 = 1070 lbs sl	hiled block		
Evaluation			
Survey	Below release criterion? (Y/N)	Releasable? (Y	/N)
Direct Beta	Y	Y	
Smear	4	Y	
Direct Gamma	Y	۲	
Comments			
	yed are shield blocks of varies wei	10000	
All items were i	not in the direct path of the beam	n.	

L. Sharisky

RCT Name

K. Neal

RCT Name

M. Duran

HPFC Reviewer

vOm

Signature

336582

Z-Number

331301

Z-Number

106440

Z-Number

23 x 21 MAY 19

5.21.19

9/11/19

Date

Item Release Survey—Direct Beta and Gamma Survey

Date: 05.15.2019	Time: 0805	No. samples: 24
TA: 53	Building: 365	Room: Parking Lot
L.Sharisky	Lamel & &	336582
RCT Name	Agnature C	Z Number
K. Neal	they the	331301
RCT Name	Signature	Z Number

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7488	7488	01.08.20	195	30%	128.55

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15028	15028	08.09.19	75.8	118

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	81
2	66
3	72
4	83
5	77
Average	75.8

RP Tracking Number



29229538

Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	B1 – Top Side	225	Y [1-2]	71	Y
2	B1 – Bottom Side	197	Y [3-4]	94	Y
3	B2 – Top Side	220	Y [5-6]	70	Υ
4	B2 – Bottom Side	181	Y [7-8]	80	Y
5	B3 – Top Side	230	Y [9-11]	81	Υ
6	B3 – Bottom Side	180	Y [12-14]	75	Υ
7	B4 – Top Side	227	Y [15-17]	67	Y
8	B4 – Bottom Side	184	Y [18-20]	78	Y
9	B5 – Top Side	208	Y [21]	66	Y
10	B5 – Bottom Side	150	Y [22]	79	Y
11	B6 – Top Side	211	Y [23]	78	Υ

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N
12	B6 - Bottom Side	141	Y [24]	71	Υ
N/A	END OF SURVEY	N/A	N/A	N/A	N/A
1	Λ	^	^	^	1
\perp		-			
	RP Tracking Number				
	29229538				
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				-	
_					
+					
+					
+					
-	X				
+					+
+					-
	1	1	V		—
N/A	N/A	N/A	N/A	N/A	N/A

Batch ID:

TA-53 Samples - 201905170840

Group:

Е

Device:

S5XLBG Unit2

Batch Key:

7217

BC#:

Bldg:

29229538

RP Tracking Number

29229538

Count Mode:

Count Date:

5/17/2019 8:40:02AM

Simultaneous

Count Minutes:

1.00

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate: Beta Rate:

0.00

± 0.00 1.80 0.60 ±

Efficiency (%) Alpha:

31.11 ± 0.11 44.44 ± 0.11

 $\Upsilon = 236.39$

Gamma Rate:

155.20

5.57 ±

Beta: Gamma:

8.80

Alpha MDA Sample ID **Alpha Unc Beta** Unc **Beta MDA** Gamma (dpm) (dpm) (dpm) (dpm) (dpm) 20190517084002-E1 0.00 8.70 0.00 9.45 5.67 16.97 145.45 20190517084303-E2 0.00 0.00 8.70 4.95 4.70 16.97 -13.64 20190517084413-E3 9.64 5.57 8.70 4.95 4.70 350.00 16.97 alpha exceeds mda 20190517084523-E4 0.00 0.00 8.70 -1.80 2.62 16.97 31.82 20190517084643-E5 6.43 4.55 8.70 13.95 6.51 16.97 202.27 20190517084753-F6 0.00 0.00 8.70 7.20 5.21 16.97 122.73 20190517084903-E7 0.00 0.00 8.70 -1.80 2.62 16.97 134.09 20190517085013-E8 0.00 0.00 8.70 -1.80 2.62 202.27 16.97 20190517085133-E9 0.00 0.00 8.70 4.95 4.70 16.97 -161.36 20190517085243-E10 0.00 0.00 8.70 -1.80 2.62 16.97 -309.09 20190517085353-F11 3.21 3.21 8.70 -4.05 1.35 16.97 -36.36 20190517085503-E12 0.00 0.00 8.70 -4.05 1.35 16.97 225.00 20190517085613-E13 3.21 3.21 8.70 4.95 4.70 16.97 -13.64 20190517085733-E14 3.21 3.21 8.70 -4.05 1.35 16.97 -47.73 20190517085843-E15 0.00 0.00 8.70 4.95 4.70 16.97 168.18 20190517085953-E16 0.00 0.00 8.70 -1.80 2.62 16.97 -161.36 20190517090103-E17 0.00 0.00 8.70 -4.05 1.35 16.97 43.18 20190517090224-E18 0.00 0.00 8.70 2.70 4.12 16.97 -2.27

Batch ID:

Group:

Device:

TA-53 Samples - 201905170840

E

S5XLBG Unit2

155.20

Batch Key:

7217

BC#:

29229538

Bldg:

Count Date:

5/17/2019 8:40:02AM

Count Minutes: Count Mode:

1.00

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry 5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate: Beta Rate:

Gamma Rate:

0.00 ± 0.00 1.80 ± 0.60

± 5.57

Alpha: Beta:

31.11 ± 0.11 44.44 ± 0.11

Gamma:

8.80

Gaillilla Nate.							
Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	Unc	Beta MDA (dpm)	Gamma (dpm)
20190517090334-E19	0.00	0.00	8.70	2.70	4.12	16.97	-47.73
20190517090444-E20	0.00	0.00	8.70	-4.05	1.35	16.97	190.91
20190517090554-E21	0.00	0.00	8.70	0.45	3.46	16.97	293.18
20190517090714-E22	0.00	0.00	8.70	-1.80	2.62	16.97	43.18
20190517090824-E23	3.21	3.21	8.70	-1.80	2.62	16.97	54.55
20190517090934-E24	3.21	3.21	8.70	-4.05	1.35	16.97	202.27
-							

RP Tracking Number 29229538



RECOUNTING

#8 + #21 BMEARS

Lough

Page 2 of 2

Print Date

5/17/2019

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {5D6EBBE6-C4F,

Print Time

9:10:50AM

Batch ID:

TA-53 Samples - 201905170936

Count Date:

5/17/2019 9:36:04AM

Group:

Е

Count Minutes:

1.00

Device:

S5XLBG Unit2

Count Mode:

Simultaneous

Batch Key:

7218

Operating Volts:

Selected Geometry

1335

BC#:

Bldg:

Gamma Volts:

828

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate: Beta Rate:

0.00 ± 0.00 1.80 ± 0.60 Alpha: Beta:

31.11 ± 0.11 44.44 ± 0.11

7 = 236.39

Gamma Rate:

155.20 5.57 Gamma:

8.80

Beta MDA Gamma (dpm) 65.91

20190517093604-E3

Sample ID

<u>Alpha</u> <u>Unc</u> (dpm) 0.00 0.00 Alpha MDA (dpm) 8.70

Beta (dpm) -1.80

<u>Unc</u> 2.62

1.35

(dpm) 16.97

20190517093735-E21

0.00 0.00

8.70

-4.05

16.97

156.82

RP Tracking Number

29229538

All Smears<MDALimits

James

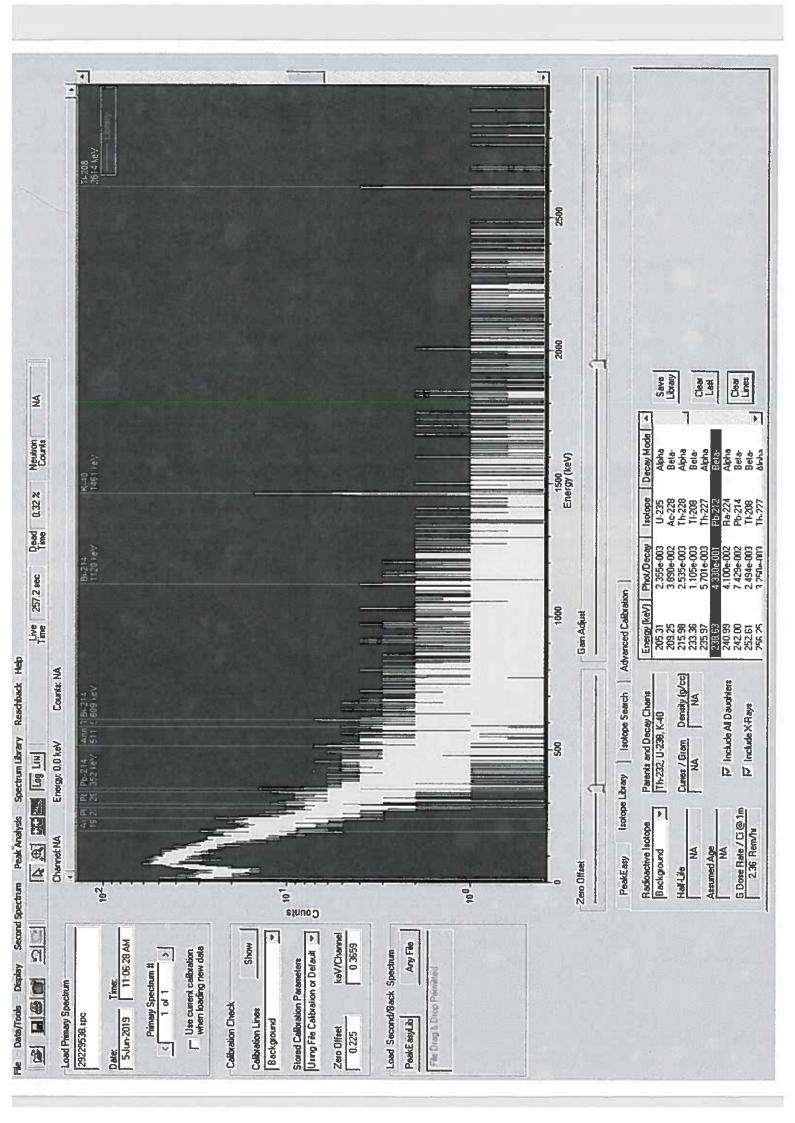
Page 1 of 1

Print Date

5/17/2019 9:38:50AM

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Print Time



BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG Los Alamos
 NATIONAL LABORATORY

MORTELLY Tauther METH CLEARANCE CLEARANCE METAL CLEADWICE METAL CLERRANCE METAL CLEARABLE HSE# (P/N): Oct 1486 Cal. Due Date: C1/08/20 Location: TA-53, MPF-3R, Rm. 141 METAL CLENRANCE D38-00 ball Comments METAL ± 20%: 72,16 to 108240pm Reference: 9020 dpm Check Source 2.6µci D-38 Burke |sotope:_ Activity:_ ... Printed Name/Signature SHARKERY 3316597 LAWREL SHARLACY L-SHARBEY L-SHARISKY L-SIMRISKY L. SHARISKY L-Shreusion N/A N/A Pass/Fail PASS PASS PAGS PASS PASS PASS Ν Ϋ́ Check Source Reading Sigrature 9000 578 2078 8362 8663 8440 Lours Net Reference Reading Scale 4 N/A N/A S <u>ال</u>ا 2/2 4/2 ₹/2 ΑŽ N/A Acceptance Range (± 20%) Bri2 dpm/ 1338dpm Net Reference Reading Scale 3 Open Scale Model: ESP-1 dpm dpm LAUREL 3 SHARISKY RCT Name 4/7 4/2 4/2 4/2 くつ ٨/٧ 1115 1310 Net Reference Reading Scale 2 Filter Position or Range: Reference Reading: Net Reading: **4**2 せて Eberline 4/2 4/2 ۷/۷ され Net Reference Reading Scale 1 Date Reference Readings Established Instrument Manufacture: 1149 1085 7.87 1043 1168 1160 Background Reference Source Bkg: १९५५ dpm (२००-३०० ।वन्ता) Activity: 40.83uci 195 213 157 7 70 101 S₁9 02 MAY/1300 OF MAYIR/OUIG OBMAYIM/0820 HMAT 17 /0000 0800 SMMR /0000 |sotope:__ Date/Time WHMIS /

RadEye SX/ L44-3 Performance Test Log

Count time: 60 seconds Cal Due Date: Instrument PN: 15029 3/2 RadEye SX /Ludlum 44-3 Bldg: - EST.1943 -

Reference Readings

Model:



Check Source:	s	#(11)	Activity	60 Second Bkg	Gross Check Source	Net Check Source	Expected -20%	Expected +20%
	C. M.D	7 2 2 3	10 01	(mda)	17 1		2.57	(1:1XIIId)
	27.72	F767	ゴロ・レンかし,	678	17100		2 	11615

Performance Test Results

Date Reference Readings Established 11/14/11 RCT name D. (の れ か

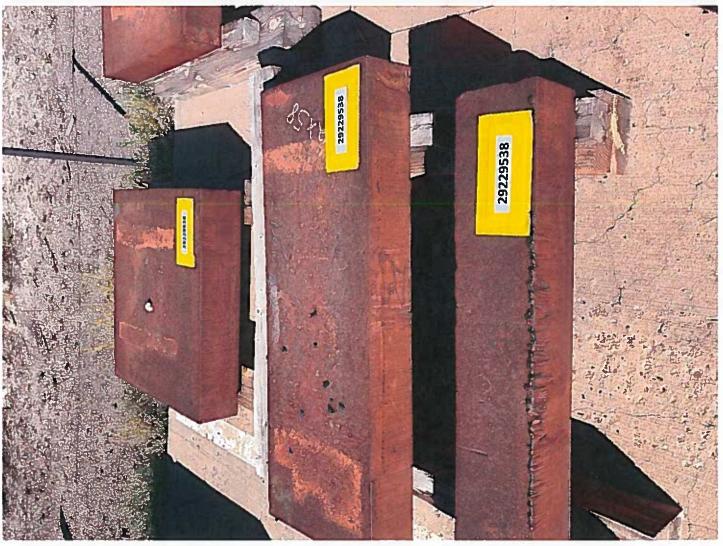
/ Sample Count Time: 60 seconds	
Background	

Z-number 3242°C

Signature

							Dacumon Dacumon I	packground / Sample Count Time: bu seconds
Date/Time	Background (cpm)	Gross Check Source	Z	Pass/Fall	RCTZ Number	RCT Name	RCT Signature	Comments
		(Linds)	(cpm)					
1 15-M @ 0800	Jbo	1 300	1540	422	324702	D.(D.Ch	((0)	
2/12/18 1030	318	11.9 k	78511	PASS	331239	B. Abhan	K	
9/1/19 6 13.30	1310	11.900	11590	Pars	342	D. (3r/Cv)	The December of the Control of the C	
9-2-10/07-2-H	314	W, 800	11,486	Tass	डाझडव	M. Mistamella	MAY MAN	
4-3-10/0805	162	11,700	11,409	7055	315139		WAY WAS	
1-4-10/0725 312	212	1,700	11,388	Pass	डाड्राड्य	4- Muscarlla	MACHINA	
4-16-19 10755	308	11,600	2/2/1	l	515139	M. Hyscarella	MAN / MINN	
4/21/10 C 36.	ירב /	11.80	11.72	Dat	ע <i>צ</i> ול	J. U.		9
5/13/19 @ 1230 258	258	00617	11,642	PASS	334587	L.Suamská	Mart town	
5.14.19 @0800	277	11900	11623	PASS	231652	L. SHARJSKY	K. N. J. C. S.	METAL CLEBOANCES
5.15.19 @ o800	29.1	12.40	11809	PASS	334582	T- SHARKY	1 MBB	METAL CLEMENICE
							N N	
2								







Date/Time:			Item Barcode No	ımbers
05.15.2019	0900	(X)		
Photo File Nam	e:		292295	39
Item Descripti	on, including any process and	historical knowled	lge	
Charlie Package	! (365 Lot):			
C1 = XX20 lbs sl	hi eld blo ck			
C2 = 4600 lbs sl	nield block			
C3 = 1520 lbs sl	nield block			
Indistinguishab	le weight represented by "X"			
Evaluation				
Survey	Below release criterion? (Y/N)	Releasable? (Y/N)		
Direct Beta	Y	Y		
Smear	Y	Υ		
Direct Gamma	Υ	Υ		
Comments				
All items survey	yed are shield blocks of varies wei	ghts and sizes.		
	not in the direct path of the beam			
L. Sha	pricles P 11	1 124	336582	
RCT I		ignature (Z-Number	2) MAY19 Date
	,	In The	331301	5.21.19
RCT I	Name Kluy	ignature (331301 Z-Number	5,21.17 Date
	Α.			
	uran ————————————————————————————————————	Dun-	106440	9/11/19
HPFC R	eviewer S	ianature	Z-Num ber	Date

Item Release Survey—Direct Beta and Gamma Survey

Date: 05.15.2019	Time: 0900	No. samples: 16
TA: 53	Building: 365	Room: Parking Lot
L. Sharisky	Signature,	336582 Z Number
K. Neal	Mhus Thu	331301
RCT Name	S/anature /	Z Number

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7488	7488	01.08.20	193	30%	127.94

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15028	15028	08.09.19	64.2	101

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	64
2	56
3	78
4	63
5	60
Average	64.2

RP Tracking Number

Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	C1 – Top Side	224	Y [1-2]	69	Y
2	C1 – Bottom Side	178	Y [3-4]	91	Υ
3	C2 – Top Side	223	Y (5-7)	50	Υ
4	C2 – South Side	180	Y [8-9]	60	Υ
5	C2 – Bottom Side	212	Y [10-12]	77	Υ
6	C3 – Top Side	230	Y [13-14]	69	Y
7	C3 – Bottom Side	185	Y [15-16]	85	Y
N/A	END OF SURVEY	N/A	N/A	N/A	N/A
î	Ţ.	1	1	1	1
	.			1	
N/A	N/A	N/A	N/A	N/A	N/A

Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less that DL? (Y/N
N/A	N/A	N/A	N/A	N/A
<u></u>	4	1	_ ^	~
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RHZ DIEPOS				
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	· .			
1000000		A		
J		- ,	\downarrow	
N/A	N/A	N/A		N/A
	RP Tracking Number 29229539 29229539	N/A N/A RP Tracking Number 29229539 1 1 1 1 1 1 1 1 1 1 1 1 1		

Batch ID:

TA-53 Samples - 201905170942

Group:

Ε

Device:

Bldg:

S5XLBG Unit

Batch Key:

7219

BC#:

29229539

RP Tracking Number

29229539

Count Date:

5/17/2019 9:42:25AM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate:

Gamma Rate:

Beta Rate:

0.00 ± 0.00 1.80 ± 0.60

± 5.57

155.20

Alpha: 31

31.11 ±

Efficiency (%)

Beta: Gamma: 44.44 ± 0.11 8.80 MON = 236.39

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	<u>Beta</u> (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190517094225-E1	3.21	3.21	8.70	7.20	5.21	16.97	-150.00
20190517094355-E2	0.00	0.00	8.70	2.70	4.12	16.97	-2.27
20190517094506-E3	0.00	0.00	8.70	-1.80	2.62	16.97	-138.64
20190517094616-E4	0.00	0.00	8.70	-4.05	1.35	16.97	43.18
20190517094736-E5	3.21	3.21	8.70	4.95	4.70	16.97	-104.55
20190517094846-E6	3.21	3.21	8.70	2.70	4.12	16.97	145.45
20190517094956-E7	0.00	0.00	8.70	2.70	4.12	16.97	327.27
20190517095106-E8	0.00	0.00	8.70	-1.80	2.62	16.97	-127.27
20190517095226-E9	3.21	3.21	8.70	0.45	3.46	16.97	-36.36
20190517095336-E10	3.21	3.21	8.70	4.95	4.70	16.97	122.73
20190517095446-E11	0.00	0.00	8.70	2,70	4.12	16.97	293.18
20190517095556-E12	0.00	0.00	8.70	2.70	4.12	16.97	-150.00
20190517095706-E13	6.43	4.55	8.70	0.45	3.46	16.97	-70.45
20190517095826-E14	3.21	3.21	8.70	-4.05	1.35	16.97	-184.09
20190517095936-E15	0.00	0.00	8.70	-1.80	2.62	16.97	-275.00
20190517100046-E16	0.00	0.00	8.70	0.45	3.46	16.97	-229.55

Reviewed by:

they must

All Smears<MDALimits

EXCEPT SMEARS # 7 + # 11

Page 1 of 1

Print Date

5/17/2019

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {B792679B-2590

Print Time

10:02:02AM

Batch ID:

TA-53 Samples - 201905171052

Count Date:

5/17/2019 10:52:11AM

Group:

Ε

Count Minutes:

1.00

Device:

S5XLBG Unit2

Count Mode:

Simultaneous

Batch Key:

7223

Operating Volts:

1335

BC#:

Gamma Volts:

828

Bldg:

Selected Geometry

5/16" Stainless Steel

Gamma

(dpm)

65.91

Background (cpm)

0.00 ± 0.00

0.00

Efficiency (%)

31.11 ± 0.11 MDA = 236.39

Alpha Rate: Beta Rate: Gamma Rate:

20190517105342-E11

1.80 ± 0.60 155.20 ± 5.57 Alpha: Beta: Gamma:

44.44 ± 8.80

Sample ID <u>Alpha</u> <u>Unc</u> Alpha MDA **Beta** Unc **Beta MDA** (dpm) (dpm) (dpm) (dpm) 20190517105211-E7 8.70 0.00 0.00 4.70 4.95 16.97

> 0.00 8.70 -1.80 2.62 16.97 213.64

0.11

RP Tracking Number

29229539

All Smears<MDALimits

Reviewed by:

Page 1 of 1

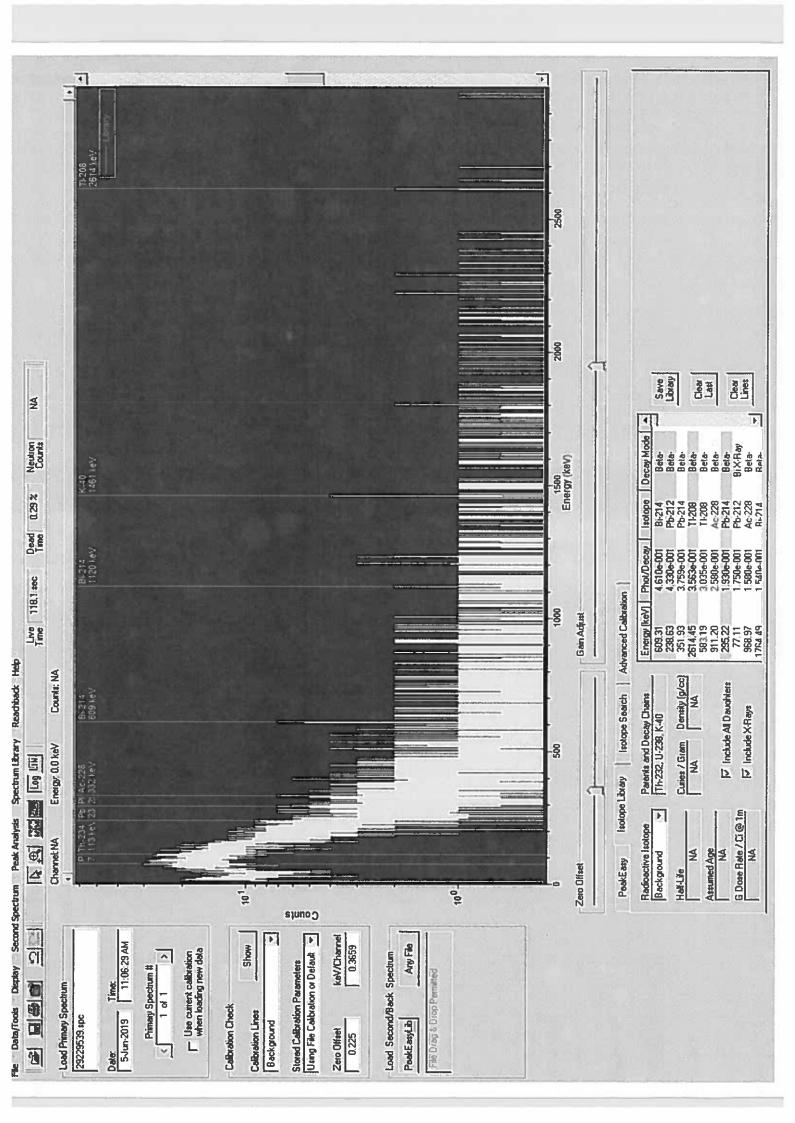
Print Date

5/17/2019

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {F8E238C3-E114

Print Time

10:54:57AM



Los Alamos NATIONAL LABORATORY

HSE# (P/N): ססיירסט (Cal. Due Date: כי / ספיירסט (P/N): מאר Cal. Due Date: רוסט (P/N): ארוסט (P/N): און ארוסט (P/N) **BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG** Model: ESP-1 Eberline Instrument Manufacture:___

METH- CLEARANCE / MANTHY
CHECK METAL CLEARANCE METAL CLEARWICE METAL CLEARAGE HETAL CLERRANCE METAL CLENRANCE D38-00 1272 ±20%:7216 to 106240pm Comments Reference: 9020 dpm Check Source D-38 Som Wally Activity: #: Isotope: Printed Name/Signature J. SHARSKY 330597 Z Number LAWREL SHABBRY L-SHARBEY L-SIMRISEY L-SHARIGET L. SHARISKY JOISTANIS 7 N/A N/A 4 Pass/Fail PASS PAGS PASS PASE PASS PASS N/A Ϋ́ Check Source Reading 9000 **8757** 2078 8362 6663 8440 Net Reference Reading Scale 4 N/A N/A ۸ /۷ 4 **₹** W/A Ϋ́ Acceptance Range (± 20%) 892 dpm/ 1335dpm Net Reference Reading Scale 3 Open Scale dpm dbm LAUREL 3 SHARKKY RCT Name 4/7 4/7 4/2 4/2 4/2 ٨/٧ 1115 Reference Reading: ত্রেত Net Reference Reading Scale 2 Filter Position or Range: Net Reading: ₹ 2 せて 4/2 せつ W/W 452 Net Reference Reading Scale 1 อริษณ Date Reference Readings Established 1149 1085 1043 7237 1168 1160 Background Reference Source Bkg: אוט dpm (200-300 ומביו) Activity: 40.83uci 195 213 157 7 10,7 Sr90 02 MAY/1300 Ob MATIR/OUTS HMM 17 /000 080 DEMAKE /0820 SHMM A PODO Isotope: **Date/Time** 16 MMIIA

RadEye SX/L44-3 Performance Test Log

Count time 60 seconds Cal Due Date: Instrument PN: 15029 Rm 312 Model: RadEye SX /Ludlum 44-3

Reference Readings



Check Sources Isotope ID# Activity 60 Second Bkg Gross Check Source Net Check Source Expected -20% Expected +20% Cpm) (cpm) (cpm) (cpm) (cpmx).2) Cpmx0.8) (cpmx) (cpmx).2) (cpmx1.2) Cpmx0.8) (cpmx) (cpmx) (cpmx) (cpmx) (cpmx) (cpmx) (cpmx)									
(cpm) (cpm) (cpm) (cpm) (cpm) (cpm) (cpmx0.8) (cpmxd.)	Chock Courses	leafaal	IMI	Activity	Second Bk	Check Sourc	Check	Expected -20%	+ pa
Sr90 K323 40. Bach 256 12,100 11844 9,475 14213	מופכע ממתוכפו	priore	11781	(mdp)	(cbm)	(cbm)	(cbm)	Ö	
		5r 90	K323	40.1326.	25%	00171	77.844	9.47×	14213

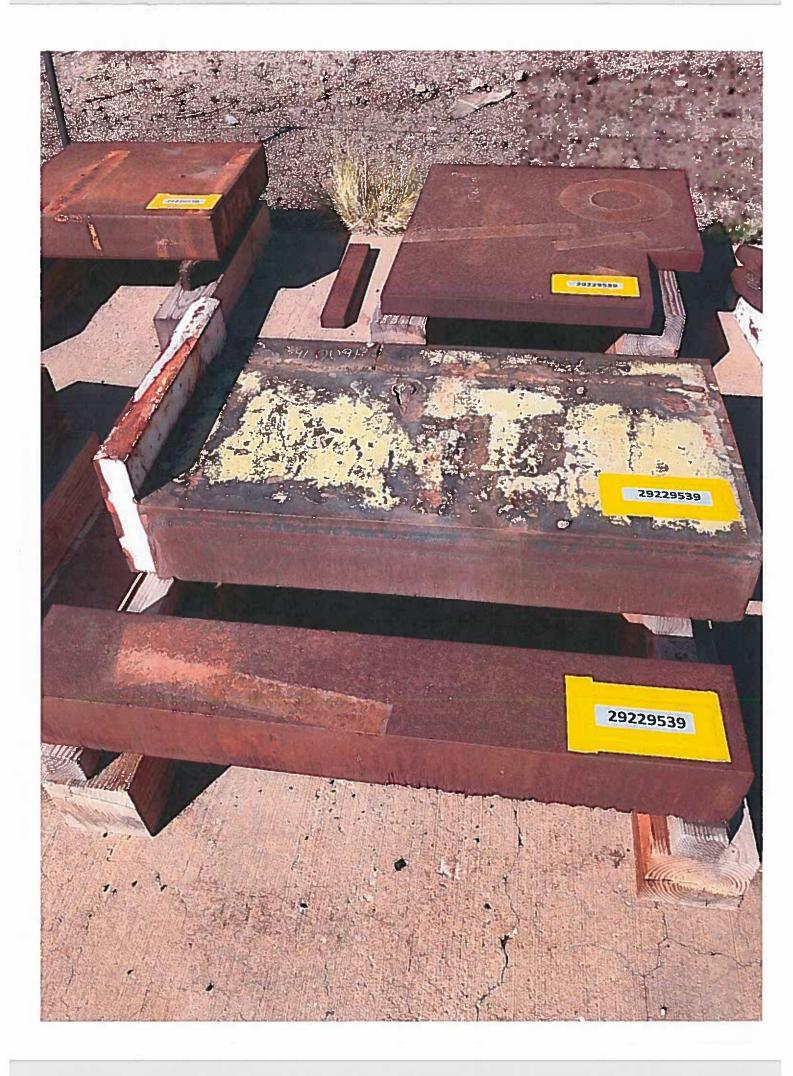
Performance Test Results

Date Reference Readings Established: WWW RCT name D. (のれか

Background / Sample Count Time: 60 seconds

Z-number: 3242°C

L	L		ſ				
Background Gross Check (com)		Z	Pass/ Fall	RCTZ	RCT Name	RCT Signature	Comments
(cbm) ((cpm)					_
11 805 11		1540	Pass	324700	D.(D.Ch	(VQ	
111 7611	1	1582	1222	331239	B. Abhar	X	
11/00/01/	_	12010	Pars	3 Hra	O. Cayen	A.Q.	
11,800 (11,	۲۱)	1,486	CASS	ડાકારવ	M. Musicanella	CAN CAN	
11 Joseph 11.		1,409	Pass	315139		Wet 2 More	
(1) July (1)	1	11,388	Pass	डा <i>ड</i> ाड्य	14- (Unscarella	THE AN	
11,600 11,7	2	7,212	7005	કાર્રા૩૧	M. Hyscandla	MAN / MAN	
11 800 11	11	77	Dat	ענ/נ	ى، ل		(0.1
911 00611	ه . ا:	1,642	PASS	334587	L. Stariský	THE FOR	
11900 11623	2		PASS	33652	L. SHARISKY	Las orline	METAL CLERANUCE
P0011 0017	<u>9</u> 11	60	PAES	334582	L. SHARIGEY	11 Mest	METAL CLEMANCE
						A 8 10	





Date/Time:			Item Barcode	Numbers
	1000			
Photo File Nam	ne:		29229	540
Item Descripti	on, including any process and	historical knowled	ige	
Delta Package (365 Lot):			 -
D1 – 600 lbs sh	ield block			
D2 – 1942 lbs si	hield block			
D3 – 975 lbs sh	ield block			
D4 – 3750 lbs si	hield block			
D5 — 1400 lbs si	hield block			
Evaluation				
Survey	Below release criterion? (Y/N)	Releasable? (Y/N)		
Direct Beta	Y	Y		
Smear	Y	Y		
Direct Gamma	Y	Y		
Comments			•	
	ed are shield blocks of varies wei	_		
All Items were I	not in the direct path of the beam			
	\sim	11/12		
L. Sha	arisky	MA	336582	21 MAY 19
RCT I	Name // 08	ignature)	Z-Number	Date
K. N	leal Helan	Mul	331301	5,21.19
RCT N		ignature	Z-Number	Date
M. D	uran ——	Dun-	106440	atula
HPFC R		ignature	Z-Number	Date

Item Release Survey—Direct Beta and Gamma Survey

Date: 05.15.2019	Time: 1000	No. samples: 22
TA: 53	Building: 365	Room: Parking Lot
Ł. Sharisky	Laurel 1d	336582
RCT Name	Signature	Z Number
K. Neal	Max Mm	331301
RCT Name	Elgnature Y	Z Number

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7488	7488	01.08.20	192	30%	127.64

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15028	15028	08.09.19	67.8	107

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	68
2	69
3	61
4	67
5	74
Average	67.8



29229540

Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)	
1	D1 – Top Side	216	Y [1-2]	72	Y	
2	D1 – Bottom Side	167	Y [3-4]	86	Y	
3	D2 – Top Side	208	Y [5-6]	54	Y	
4	D2 – Bottom Side	171	. 171 Y [7-8]		Y	
5	D3 – Top Side	230	Y [9-10]	69	Y	
6	D3 – Bottom Side	191	Y [11-12]	88	Y	
7	D4 – Top Sdie	235	Y [13-15]	68	Υ	
8	D4 – Bottom Side	198	Y [16-18]	70	Υ	
9	D5 – Top Side	228	Y [19-20]	78	Y	
10	D5 – Bottom Side	207	Y [21-22]	71	Y	
N/A	END OF SURVEY	N/A	N/A	N/A	N/A	

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N) N/A	
N/A	N/A	N/A	N/A	N/A		
	1	1	1	1		
	RP Tracking Number					
	29229540					
		- - 				
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\downarrow	1					
N/A	N/A	N/A	N/A	N/A	N/A	

Batch ID:

TA-53 Samples - 201905171058

Group:

E

Device:

BC#:

Bldg:

S5XLBG Unit2

Batch Key:

7224

29229540

RP Tracking Number

Count Date:

5/17/2019 10:58:39AM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate:

0.00 1.80 ±

± 0.00

0.60

31.11 ± Alpha:

Beta: 44.44 ±

8.80

Efficiency (%)

8 MDA = 236.39

Beta Rate: Gamma Rate:

155.20

± 5.57

Gamma:

0.11

0.11

Sample ID	<u>Alpha</u> (dpm)	<u>Unc</u>	Alpha MDA (dpm)	<u>Beta</u> (dpm)	<u>Unc</u>	Beta MDA (dpm)	<u>Gamma</u> (dpm)
20190517105839-E1	0.00	0.00	8.70	4.95	4.70	16.97	134.09
20190517110010-E2	0.00	0.00	8.70	0.45	3.46	16,97	43.18
20190517110120-E3	0.00	0.00	8.70	-4.05	1.35	16.97	-47.73
20190517110230-E4	0.00	0.00	8.70	-1.80	2.62	16.97	190.91
20190517110350-E5	0.00	0.00	8.70	0.45	3.46	16.97	77.27
20190517110500-E6	3.21	3.21	8.70	2.70	4.12	16.97	202,27
20190517110610-E7	3.21	3.21	8.70	2.70	4.12	16.97	88.64
20190517110720-E8	0.00	0.00	8.70	0.45	3.46	16.97	-47.73
20190517110840-E9	0.00	0.00	8.70	-4.05	1.35	16.97	225.00
20190517110950-E10	0.00	0.00	8.70	2.70	4.12	16.97	293.18
20190517111100-E11	0.00	0.00	8.70	7.20	5.21	16.97	88.64
20190517111210-E12	0.00	0.00	8.70	0.45	3.46	16.97	100.00
20190517111320-E13	0.00	0.00	8.70	-1.80	2.62	16.97	-93.18
20190517111440-E14	0.00	0.00	8.70	-1.80	2.62	16.97	-150.00
20190517111550-E15	3.21	3.21	8.70	-4.05	1.35	16.97	134.09
20190517111701-E16	0.00	0.00	8.70	-4.05	1.35	16.97	236.36
20190517111811-E17	0.00	0.00	8.70	-1.80	2.62	16.97	134.09
20190517111931-E18	0.00	0.00	8.70	0.45	3.46	16.97	225.00

Print Date

Batch ID:

TA-53 Samples - 201905171058

Count Date:

5/17/2019 10:58:39AM

Group: Device:

Count Minutes:

1.00

S5XLBG Unit2

Count Mode: Operating Volts: Simultaneous

Batch Key:

7224

1335

BC#:

29229540

Gamma Volts:

Selected Geometry

828

Bldg:

5/16" Stainless Steel

Background (cpm)

Alpha Rate: Beta Rate:

0.00 ± 0.00 1.80 ± 0.60

Alpha: Beta:

31.11 ± 0.11

44.44 ± 8.80

Efficiency (%)

X MDA = 236,39

155.20 ± 5.57 Gamma: Gamma Rate:

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190517112041-E19	0.00	0.00	8.70	2.70	4.12	16.97	179.55
20190517112151-E20	0.00	0.00	8.70	4.95	4.70	16.97	-2.27
20190517112301-E21	0.00	0.00	8.70	2.70	4.12	16.97	179.55
20190517112411-E22	0.00	0.00	8.70	2.70	4.12	16.97	565.91

RP Tracking Number



29229540

All Smears<MDALimits

* smears # 10, 16 \$ 22 recounted. Recount results listed on following page.

Shlung Nem

Page 2 of 2

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {461710CB-E4B7

Print Date

5/17/2019

Print Time

11:25:37AM

Batch ID:

TA-53 Samples - 201905171133

Count Date:

5/17/2019 11:33:11AM

Group:

Ε

Count Minutes:

1.00

Device:

S5XLBG Unit2

Count Mode:

Simultaneous

Batch Key:

7227

Operating Volts:

Selected Geometry

1335

BC#:

828

Bldg:

Gamma Volts:

5/16" Stainless Steel

Background (cpm) Alpha Rate:

0.00 ± 0.00 Efficiency (%)

31.11 ±

Beta Rate: Gamma Rate:

± 0.60 1.80 155.20 ± 5.57

Alpha: Beta: Gamma:

44.44 ± 0.11 8.80

8MD9 = 236.39

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190517113311-E10	0.00	0.00	8.70	4.95	4.70	16.97	43.18
20190517113441-E16	0.00	0.00	8.70	-4.05	1.35	16.97	-13.64
20190517113552-E22	0.00	0.00	8.70	-1.80	2.62	16.97	-93.18

RP Tracking Number

29229540

All Smears<MDALimits

Why Man

Page 1 of 1

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {3BA564AA-A857

Print Date

5/17/2019

Print Time 11:37:07AM

Los Alamos Bi

BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG

Instrument Manufacture: Eberline Model: ESP-1

HSE# (P/N): Cal. Due Date: כי/ספ/זב Location: TA-53, MPF-3B, Rm. 141 Model: ESP-1 Eberline

/WOMEN Chaugh META CLEARANCE METAL CLEARANCE METAL CLENAMICE METAL CLERRANCE METAL CLENRAICE D38-00 1072 Comments ±20%:721/e to 105/24/dpm dpm Check Source 2.6uci 0-38 Reference: 9020 Jo-16/10 . □ #: |sotope: Activity: Printed Name/Signature Z SHARIGEN 3310597 Ø LAWRE L SHARLON L-SHARBEY L-SIMRISEY L-SHARISKY L. SHARISKY L-SHARIGHOT ΑN N A Pass/Fail PASS PAGS PASS PASS PA 555 PASS N/A Check Source Reading Signature 9000 2068 5787 8362 6663 8440 Net Reference Reading Scale 4 ΑX ۷ Ž Q ۸ ۲ 4 4/2 ₹ 2 N/A ₹\^H Acceptance Range (± 20%) 892 dpm/ 1338dpm Net Reference Reading Scale 3 Filter Position or Range: Open Scale dpm map LAUREL 3 SHARISKY RCT Name くっつ \$\N 4/2 4/2 V/V 1115 Reference Reading: 1310 Net Reference Reading Scale 2 Net Reading: ₹ 2 さべて 4/2 **火**2 **♦** 452 Net Reference Reading Scale 1 บรลงณา Date Reference Readings Established 1149 1085 1043 12.37 1168 1160 Background Reference Source Bkg: सिंड dpm (200-300 ideal) Activity: 40.83µci 195 212 157 7 70 107 Sr³⁰ 02 MAY/1300 PIPO/PAINA 40 OBHAYPA/0820 HMATIS /0000 080 SWM PA /OBOD lsotope: Date/Time MAMIA /

RadEye SX/ L44-3 Performance Test Log

Count time: 60 seconds Cal Due Date: Instrument PN: 15029 312 RadEye SX /Ludlum 44-3

Reference Readings

Model



Chark Courses	leotono	113/6	Activity	60 Second Bkg	Gross Check Source	Net Check Source	Expected -20%	Expected +20%
S S S S S S S S S S S S S S S S S S S	adalasi	16.24	(mdp)	(cpm)	(cbm)	(cbm)	(cpmx0.8)	(cpmxl.2)
	240	K323	40.13mc	256	00/17/	54811	4,47	14213

RCT name: D. GAL Date Reference Readings Established: 11/1/1/1

Z-number 3247°C

Performance Test Results

Performance Test Results	Test Res	uits					Background	Background / Sample Count Time: 60 seconds
	200000000000000000000000000000000000000	Gross Check	Gross Check Net Check		1			
Date/Time	Datrigionin	Source	Source	Pass/ Fall	KCIZ	RCT Name	RCT Signature	Comments
	(cpm)	(cpm)	(cpm)		Number		,	
LIFM @ OXOO	Jeo	CO\$	144	45°	324700	D.(0.00)	(10)	
0501 81/21/2	318	11.9 K	11582	20.1% 	331239 8	B. Ab/452-	Z	
11/19 6 1500	3/0	00 6.1	11590	par	32thar	O. Caren	4	

14. Muscarlla M. Muscarella M. Muscamplla

315139 DE1515

SSS SS

J. Nyscard/s

2007 Pass

11,388

4-16-19 10735 308

19,700 325/ 1,630

4-3-10/0805 8-4-12/07-M-

00%/N

METAL CLERRANCE

L. SHARISKY

336587 3365B2 334582

PASS PASS PASS

00611 11.80

5/13/19 @ 1230 258

11900 2017

777

5.14.19 @0800

291

5.15.19 @ 0800

777

11.72 11642

7

4/21/10 C 36.

L. SHARLET

11809 11 1023







Date/Time:			Item Barcode N	lumbers
-	100			
Photo File Nam	e:		29229	541
Item Descripti	on, including any process and	historical knowled	dge	
Echo Package (3	365 Lot):			
E1 – 1445 lbs sh	nield block			
E2 – 1415 lbs sh	nield block			
E3 – 1033 lbs sh	nield block			
E5 – 2935 lbs sh	nield block			
E6 – 925 lbs shi	eld block			
Evaluation				
Survey	Below release criterion? (Y/N)	Releasable? (Y/N)		
Direct Beta	Y	Y		
Smear	Y	٧		
Direct Gamma	Y	Υ		
Comments				
All items survey	ed are shield blocks of varies wei	ghts and sizes.		-
All items were r	not in the direct path of the beam	•		
The E4 shield bl	ock did not satisfy survey require	ments (above Decisi	on Level).	
L. Sha	risky Samel J.	SAST	336582	2 MAYR
RCT N	lame // X S	ignature 💚	Z-Number	Date
K. N	eal XLL	man)	331301	5.21.19
RCT N	lame 0 s	ignature ¹	Z-Number	Date
M. D	uran •••••.	Onn-	106440	9/11/19
HPFC Re		ignature	Z-Number	Date

Item Release Survey—Direct Beta and Gamma Survey

Date: 05.15.19	Time: 1100	No. samples: 18
TA: 53	Building: 365	Room: Parking Lot
L. Sharisky	Level Add	336582
RCT Name	Signature	Z Number
K. Neal	The Man	331301
RCT Name	Signature	Z Number

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7488	7488	01.08.20	199	30%	129.76

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15028	15028	08.09.19	62.8	100

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	67
2	64
3	63
4	62
5	58
Average	62.8

RP Tracking Number



29229541

Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	E1 – Top Side	195	Y [1]	70	Y
2	E1 – Bottom Side	167	Y [2]	60	Y
3	E2 – Top Side	232	Y [3-4]	71	Y
4	E2 – Bottom Side	161	Y [5-6]	89	Y
5	E3 – Top Side	230	Y [7-8]	86	Y
6	E3- Bottom Side	189	Y (9-10)	89	Y
7	E5 – Top Side	230	Y [11-12]	63	Y
8	E5 – Bottom Side	164	Y [13-14]	82	Υ
9	E6 – Top Side	223	Y [15-16]	69	Y
10	E6 – Bottom Side	194	Y [17-18]	64	Υ
N/A	END OF SURVEY	N/A	N/A	N/A	N/A

Survey Area	item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N
N/A	N/A	N/A	N/A N/A N/A		N/A
1		^	1	4	1
	RP Tracking Number				
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\downarrow	V				
N/A	N/A	N/A	N/A	N/A	N/A

Batch ID:

TA-53 Samples - 201905171420

Group:

Ε

Device:

S5XLBG Unit2

Batch Key:

7230

BC#:

20190517144025-E16

20190517144135-E17

20190517144255-E18

0.00

0.00

0.00

0.00

0.00

0.00

29229541

Bldg:

RP Tracking Number

29229541

Count Date:

5/17/2019 2:20:33PM

Count Minutes:

1.00

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate: Beta Rate: 0.00 ± 0.00 1.80 ± 0.60 Alpha: Beta:

31.11 ± 0.11 44.44 ± 0.11

94.44

8 = 236.39

155.20 5.57 Gamma: 8.80 Gamma Rate: Sample ID **Alpha** Unc Alpha MDA **Beta** Unc **Beta MDA** Gamma (dpm) (dpm) (dpm) (dpm) (dpm) 20190517142033-E1 0.00 0.00 8.70 -4.05 1.35 16.97 -25.00 20190517142334-E2 0.00 0.00 8.70 -4.05 1.35 16.97 -184.09 20190517142444-E3 0.00 0.00 8.70 0.45 3.46 16.97 190.91 20190517142554-E4 0.00 0.00 8.70 4.95 4.70 16.97 202.27 20190517142714-E5 3.21 3.21 8.70 9.45 5.67 16.97 145,45 20190517142824-F6 0.00 0.00 8.70 0.45 3.46 16.97 134.09 20190517142934-E7 0.00 0.00 8.70 -1.80 2.62 16.97 -13.64 20190517143044-E8 3.21 3.21 8.70 11.70 6.10 16.97 -81.82 20190517143204-E9 0.00 0.00 8.70 4.95 4.70 16.97 100.00 20190517143314-E10 0.00 0.00 8.70 -4.05 1.35 16.97 -25.00 20190517143424-E11 0.00 0.00 8.70 -4.05 1.35 16.97 -59.09 20190517143534-E12 0.00 0.00 8.70 2.70 4.12 16.97 9.09 20190517143645-E13 0.00 0.00 8.70 -4.05 1.35 16.97 213.64 20190517143805-E14 0.00 0.00 8.70 0.45 3.46 16.97 -36.36 20190517143915-E15 0.00 8.70 0.00 -1.80 2.62 16.97 88.64

8.70

8.70

8.70

2.70

-4.05

-4.05

4.12

1.35

1.35

16.97

16.97

16.97

43.18

156.82

100.00

Batch ID:

TA-53 Samples - 201905171420

Count Date:

5/17/2019 2:20:33PM

5/16" Stainless Steel

Group: Device:

BC#:

Batch Key:

S5XLBG Unit2

7230

Operating Volts:

Selected Geometry

Count Minutes:

Simultaneous

Count Mode:

1335

1.00

29229541

Background (cpm)

Gamma Volts:

828

Bldg:

Efficiency (%)

Alpha Rate: Beta Rate:

0.00 ± 0.00 1.80 ± 0.60 Alpha:

31.11 ± 0.11

Gamma Rate:

155.20 5.57 Beta: Gamma: 44.44 ± 0.11

8.80

Sample ID

Alpha (dpm)

Unc

Alpha MDA (dpm)

Beta (dpm) Unc

Beta MDA (dpm)

Gamma (dpm)

All Smears<MDALimits

RP Tracking Number

29229541

Reviewed by:

Page 2 of 2

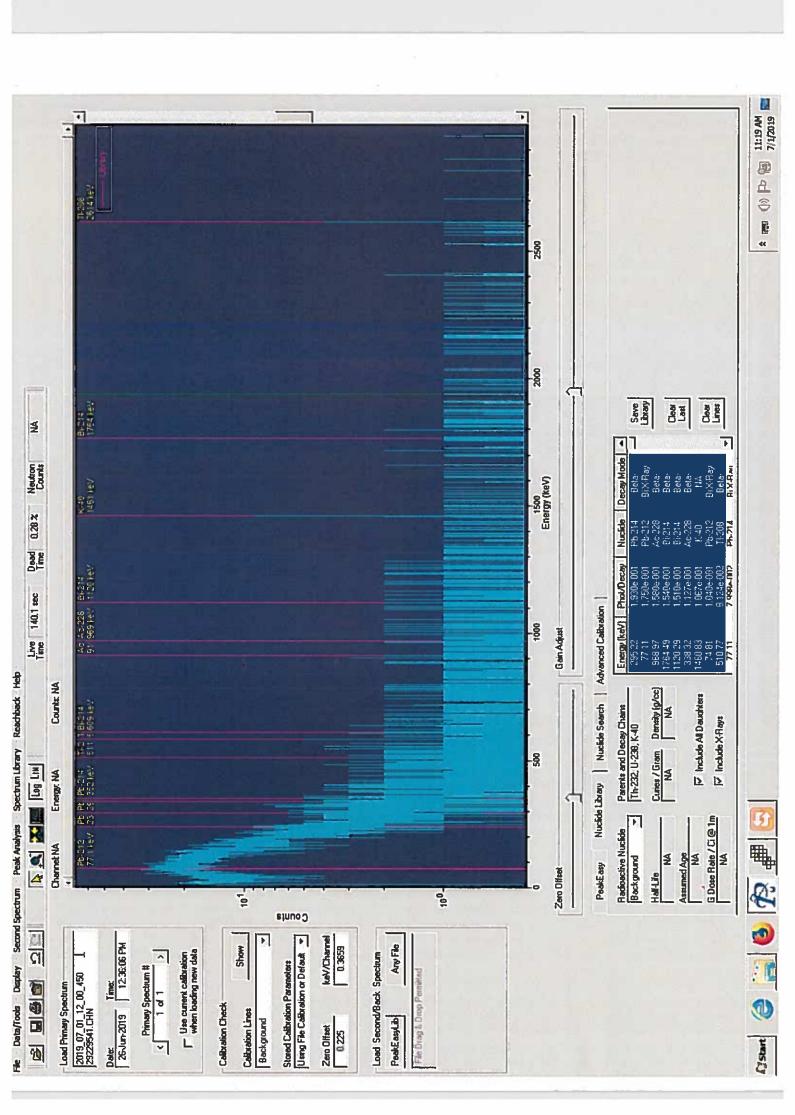
C:\Users\Canberra\AppData\Local\Temp\LANL sample report {FAF13882-AB3E

Print Date

5/17/2019

Print Time

2:44:10PM



BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG Los Alamos
 NATIONAL LABORATORY

Cal. Due Date: 01/08/20 Location: TA-53, MPF-3B, Rm. 141 HSE# (P/N): 007 488 Model: ESP-1 Eberline Instrument Manufacture:

A BUNDAN METH- CLEARANCE CLEARANCE METAL CLEADANCE METAL CLERRANCE METAL CLEARABLE METAL CLENRANCE D38-00 147/4 Comments # 20%: 72.16 to 10824dpm METAL Check Source 2.6uci D-38 Reference: 9020 Server . □ Activity:__ !sotope:_ Printed Name/Signature 30 Z Number Ø LAWREL SHARBOY L. SHARBEY L-SHARISKY L-SIMRISEY L. SHARISKY L-SHARLENOT K/N Ϋ́ マ Pass/Fail PASS PAGS PA 55 PASS PA 55 PASS N/A × Check Source Reading Signature 9000 P7578 2988 2068 8663 8440 Net Reference Reading Scale 4 N/A N/A Ø ۸ ۲ 2 <u>ال</u>ا **₹**/2 タンプ ₹, Acceptance Range (± 20%) ৪৭2 dpm/ 1338dpm Net Reference Reading Scale 3 Open Scale dpm ф LAUREL J SHARISKY 4/2 RCT Name 4/2 477 めん 4/2 <u>۷</u> 1115 1310 Net Reference Reading Scale 2 Filter Position or Range: Reference Reading: Net Reading: **4**2 せてい 4/2 ところ ۸/۷ さん Net Reference Reading Scale 1 Date Reference Readings Established 149 1085 1043 787 1168 1160 Background Reference Source Bkg: १९१5 dpm (२००-३०० तिन्ता) Activity: 40.83uci 25 157 7 K-323 197 Sr⁹ 02 MAY/1300 HMRT 17 /000 PIPO/PIMM DO CONTAKTA/082D 0800 SMMR A PECO Isotope:_ SMMS

RadEye SX/ L44-3 Performance Test Log

	Count time: 60 seconds
6/10/8	
Cal Due Date:	
nstrument PN: 15029	
(17) In	:
Rmi	
312	.3
53 Bldg:	RadEye SX /Ludlum 44-
N.	Jodel

COPY

Reference Readings

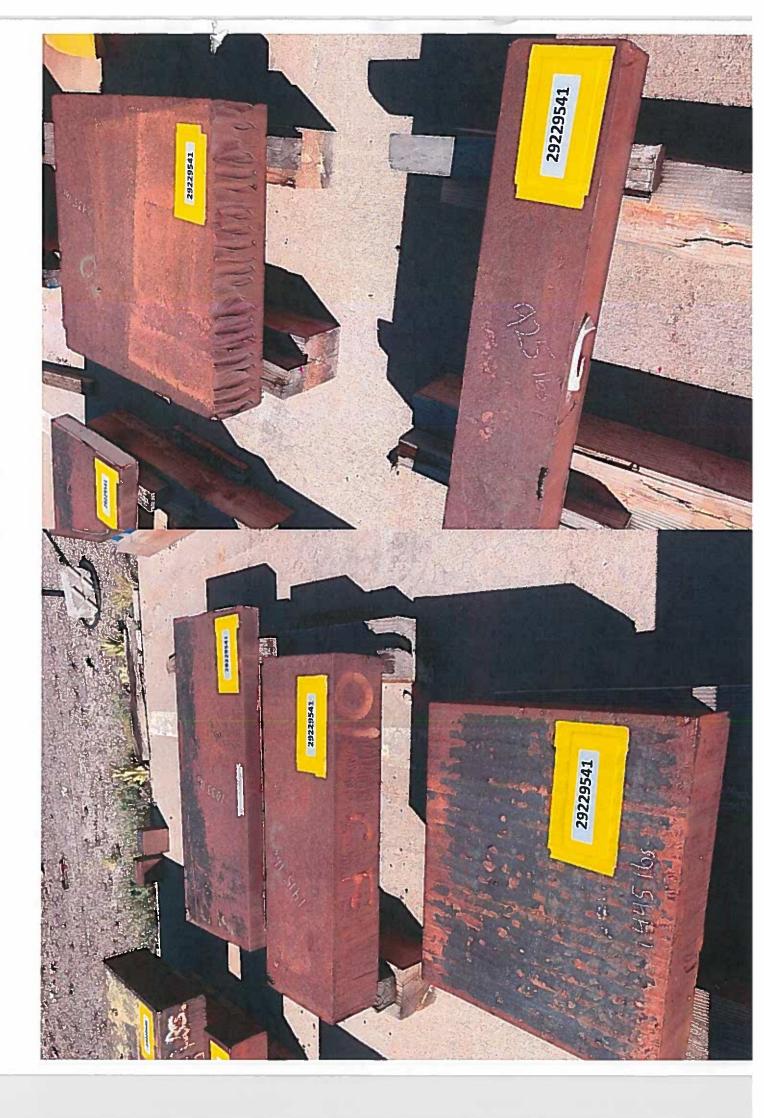
Charle Course	occion!	IIVII	Activity	60 Second Bkg	Gross Check Source	Net Check Source	Expected -20%	Expected +20%
מוברי מחוברי	adning	11711	(dbm)	(cbm)	(cbm)	(cbm)	(cpmx0.8)	(cpmxl.2)
	Sr 90	K323	40. Bluc.	256	00/17/	11844	9,47	14213

RCT name D. (ORLY

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Date Reference Readings Established: 1/1/1/10

Performance Test Results	Test Res	ults					Background	Background / Sample Count Time: 60 seconds
	puncanjung	Gross Check	Net Check		1200			
Date/Time	(com)		Source	Pass/ Fall	Number	RCT Name	RCT Signature	Comments
	0.550	(cbm)	(cpm)					
115M @ 0800	Jeo	\ \\oo\	1840	Pass	324700	D.(D.Ch	(KQ	
2/12/14 1030	318	11.9 12	11582	SVV	331239	B. Abhar	Z	
4/1/19 6 13:30	310	11.900	11590	Pars	3.the	D. (376v	A Q	
9-2-19/07-5-H	415	11,800	11,486	G ASS	ડાફારવ	M. MNSTOWNIA	TWAY TWAY	
4-3-10/0805	162	11,700	11,409	Pess5	315139	315BA PL MUSCARILL	WAY MAN	
1-4-10/01-H-1	212	325/	11,388	Pass	डाडाइव	14. (443care)/a	WATERY.	
4-16-19 10735	308	11,600	11,272	5002	515139	M. HUSCANEILO	MAN CAM	
1/2x/1/0 6 50.	/רב	11.80.	ルエント	Dat	<i>رد/(</i>	J.U.		(3.1
5/13/19 @ 1230 258	258	00617	11,642	PASS	334587	L. Suamská	Mark to the	
5.14.19 @0800	717	11900	11 623	PASS	3365B2	L. SHARISKY	Kind of Care	METAL CLEARANCE
5.15.19 @ 0800	291	12.100	11809	PAES	334582	L. Sharkey	1/ MBB	METAL CLEMANICE
							8 . 8	
:								





Date/Time:	item Barcode Numbers
05.16.2019 0900	
Photo File Name:	29229542

Item Description, including any process and historical knowledge

Foxtrot Package (365 Lot):

F1 - 1263 lbs shield block

F3 - 1500 lbs shield block

F4 – 146 lbs shield block

F5 - 344 lbs shield block

F6 - 1030 lbs shield block

Evaluation

Survey	Below release criterion? (Y/N)	Releasable? (Y/N)
Direct Beta	Υ	Υ
Smear	Υ	Y
Direct Gamma	Υ	Y

Comments

All items surveyed are shield blocks of varies weights and sizes.

All items were not in the direct path of the beam.

F2 removed from package due to activation – Smears 3-6 are no longer applicable to package as they were taken from F2

L. Sharisky	Jump 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	336582	22MAY19
RCT Name	Signature	Z-Number	Date
K. Neal	Men Mus	331301	5.22.19
RCT Name	Signature	Z-Number	Date
M. Duran	whe Om-	106440	9/11/19
HPFC Reviewer	Signature	Z-Number	Date

Item Release Survey—Direct Beta and Gamma Survey

Date: 05.16.2019	Time: 0900	No. samples: 14
TA: 53	Building: 365	Room: Parking Lot
L. Sharisky	Samuel 1 189	336582
RCT Name	Signature	Z Number
K. Neal	they Man	331301
RCT Name	Signature /	7 Number

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7488	7488	01.08.20	195	30%	128.55

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15028	15028	08.09.19	97	141

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	113
2	95
3	87
4	103
5	85
Average	97

RP Tracking Number



29229542

Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	F1 – Top Side	235	Y [1]	70	Υ
2	F1 – Bottom Side	200	Y [2]	68	Υ
3	ITEM REMOVED	N/A	N/A	N/A	N/A
4	ITEM REMOVED	N/A	N/A	N/A	N/A
5	F3 – Top Side	237	Y [7]	76	Υ
6	F3 – Bottom Side	109	Y [8]	77	Y.
7	F4 – Top Side	215	Y [9]	84	Υ
8	F4 – Bottom Side	213	Y [10]	80	Υ
9	F5 – Top Side	234	Y [11]	80	Υ
10	F5 – Bottom Side	195	Y [12]	85	Υ
11	F6 – Top Side	223	Y [13]	62	Υ

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
12	F6 – Bottom Side	192	Y [14]	78	Y
N/A	END OF SURVEY	N/A	N/A	N/A	N/A
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\perp					
	L	1	1	Ţ	1
N/A	N/A	N/A	N/A	N/A	N/A

Batch ID:

TA-53 Samples - 201905171452

Group:

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Device:

S5XLBG Unit2

155.20

Batch Key:

7231

BC#:

Bldg:

29229542

Count Date:

5/17/2019 2:52:26PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate: Beta Rate:

Gamma Rate:

0.00 0.00 1.80 0.60

5.57

Alpha: Beta:

RP Tracking Number

29229542

31.11 ± 0.11 44.44 ± 0.11

Gamma: 8.80

8 MOA	=	236	•	3	9
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Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	<u>Beta</u> (dpm)	<u>Unc</u>	Beta MDA (dpm)	<u>Gamma</u> (dpm)
20190517145226-E1	0.00	0.00	8.70	2.70	4.12	16.97	497.73
20190517145357-E2	0.00	0.00	8.70	0.45	3.46	16.97	134.09
20190517145507-E3	0.00	0.00	8.70	-1.80	2.62	16.97	-263.64
■ → SMEA	ir not	APPLICABLE					
20190517145617-E4	0.00	0.00	8.70	-4.05	1.35	16.97	145.45
→ SMEAG	2 NOT	APPLICABLE					
20190517145737-E5	0.00	0.00	8.70	16.20	6.88	16.97	111.36
- SMP	R NOT	APPLICABLE					
20190517145847-E6	0.00	0.00	8.70	-1.80 📡	2.62	16.97	88.64
- SMEA	2 NOT	APPLICABLE					
20190517145957-E7	0.00	0.00	8.70	2.70	4.12	16.97	100.00
20190517150107-E8	3.21	3.21	8.70	-1.80	2.62	16.97	31.82
20190517150217-E9	0.00	0.00	8.70	2.70	4.12	16.97	202.27
20190517150337-E10	0.00	0.00	8.70	9.45	5.67	16.97	213.64
20190517150447-E11	3.21	3.21	8.70	-4.05	1.35	16.97	247.73 -
20190517150557-E12	3.21	3.21	8.70	-1.80	2.62	16.97	-115.91
20190517150707-E13	3.21	3.21	8.70	2.70	4.12	16.97	259.09
20190517150827-E14	0.00	0.00	8.70	-4.05	1.35	16.97	384.09

* smear # 1, 11, 13, 14 recounted. Recount results listed on subsequent pages.

All Smears<MDALimits

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Page 1 of 1

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {3B9908F9-08F7-

Print Date

5/17/2019

Print Time

3:09:43PM

Batch ID:

TA-53 Samples - 201905171511

Count Date:

5/17/2019 3:11:27PM

Group:

Ε

Count Minutes:

1.00

Device:

Count Mode:

Simultaneous

Batch Key:

7232

S5XLBG Unit2

Operating Volts:

1335

BC#:

Gamma Volts:

828

Bldg:

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate: Beta Rate:

0.00 0.00 1.80 0.60 ±

Alpha: Beta:

31,11 ± 44.44 ±

0.11

X MOA = 236.39

Gamma Rate:

155.20 ± Gamma:

8.80

5.57

Sample ID	<u>Alpha</u> (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	<u>Beta MDA</u> (dpm)	<u>Gamma</u> (dpm)
20190517151127-E1	0.00	0.00	8.70	-4.05	1.35	16.97	-172.73
20190517151257-E11	0.00	0.00	8.70	4.95	4.70	16.97	270.45
20190517151407-E13	0.00	0.00	8.70	4.95	4.70	16.97	-138.64
20190517151517-E14	0.00	0.00	8.70	4.95	4.70	16.97	9.09

Smear # 11 recounted, results listed on subsequent page.

All Smears<MDALimits

RP Tracking Number

29229542

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Page 1 of 1

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {767E313C-D0Ef

Print Date Print Time 5/17/2019 3:16:43PM

Batch ID:

TA-53 Samples - 201905171517

Count Date:

5/17/2019 3:17:38PM

Group:

E

Count Minutes:

1.00

Device:

S5XLBG Unit2

Count Mode:

Simultaneous

Batch Key:

7234

Operating Volts:

1335

BC#:

Gamma Volts:

828

Bldg:

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate:

0.00 0.00 ± 1.80 ± 0.60 Alpha:

31.11 ±

8 MA4 = 236.39

Beta Rate: Gamma Rate:

155.20 5.57 ±

Beta: Gamma: 44.44 ± 8.80

Beta MDA

<u>Gamma</u>

20190517151738-E11

Sample ID

<u>Alpha</u> (dpm) 0.00

<u>Unc</u> 0.00 Alpha MDA (dpm) 8.70

Beta (dpm) -4.05

Unc 1.35 (dpm) 16.97

(dpm) -36.36

All Smears<MDALimits

RP Tracking Number

29229542

They Man

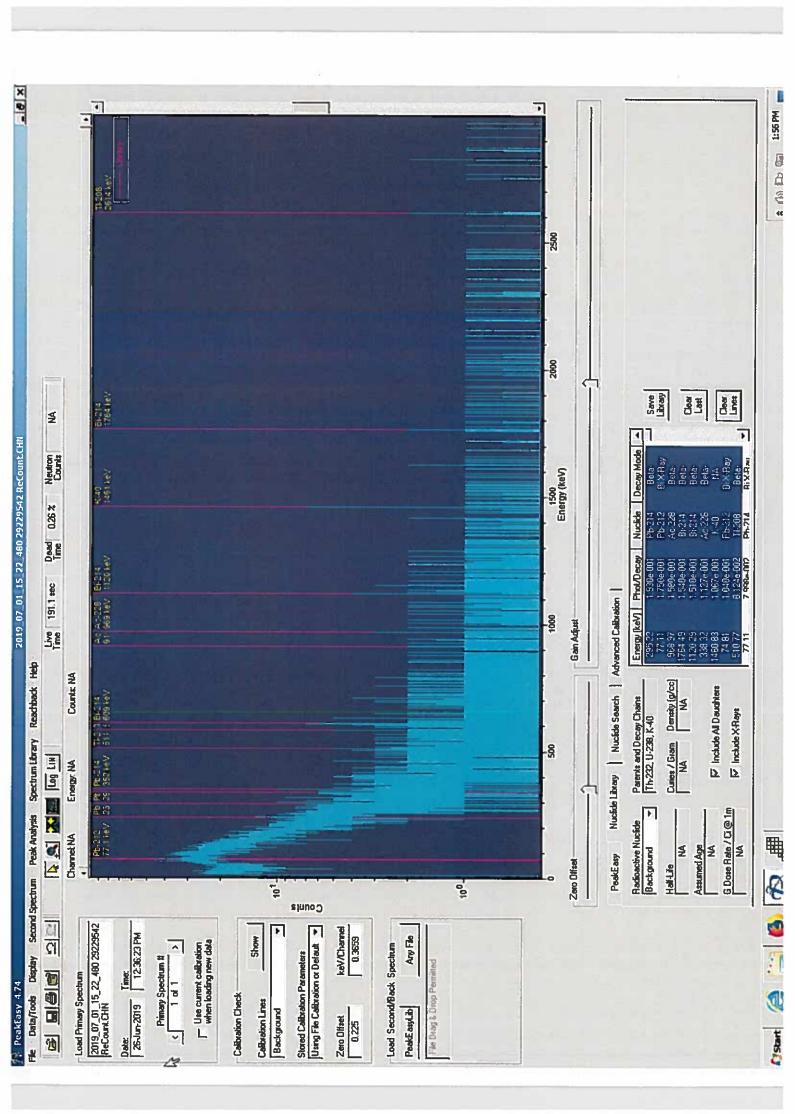
Page 1 of 1

C:\lsers\Canberra\AppData\Local\Temp\LANL sample report {C2664CA1-8BF2

Print Date

5/17/2019 3:19:14PM

Print Time



Los Alamos
 NATIONAL LABORATORY

BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG

Cal. Due Date: 01/08/20 Location: TA-53, MPF-3R, Rm. 141 Model: ESP-1 HSE# (P/N): ೦೦೧ 488 Instrument Manufacture: Eberline

METH- CLEARANCE / MONTHLY OHECK CLEARANCE METAL CLEARABLE METAL CLEADWICE METAL CLEARANCE METAL CLENRANCE 2536 D38-00 1274 Comments ± 20%: 721/p to 105:24dpm METAL dpm Check Source 2.6µci D-38 Reference: 9020 .# □ lsotope: Activity:_ Printed Name/Signature SHARKKY 3310597. Z Number Q LANKE L SHARKY L-SHARBEY L-SIMRISEY L-SHARIGKY L. SHARISKY JOISTANICS-7 XX × 4 Pass/Fail PASS PA 55 PAGS PASS PA 35 PASS Ϋ́ Ϋ́ Check Source Reading Sigriature 9000 2068 **8757** 8362 6663 8440 Net Reference Reading Scale 4 N/A X X N <u>لا</u> ك 4/2 4/2 なべん **₹** 2 **ک** ک Acceptance Range (± 20%) 892 dpm/ 1338dpm Net Reference Reading Scale 3 Filter Position or Range: Open Scale dpm dpm LAUREL 3 SHARISKY RCT Name 4 > 2 47 4/2 4 72 きつ ٧/٧ 1115 Reference Reading: 1310 Net Reference Reading Scale 2 Net Reading: **42** 47 4/2 4/2 メント ۸/۷ Net Reference Reading Scale 1 Date Reference Readings Established 1149 5801 1043 12.37 1168 1160 Background Reference Source Bkg: १९५5 dpm (२००-३०० विद्या) Activity: 40.83µci 195 213 157 7 5 K-323 197 Sr⁹⁰ 02 MAY/1300 PIPO/PHYM DO HMMT 17000 OBHAYFA/0820 080 SMMR /0000 Isotope: PHMM41

RadEye SX/ L44-3 Performance Test Log

Count time: 60 seconds Cal Due Date: Instrument PN: 15029 RH 3/2 RadEye SX /Ludlum 44-3 - EST.1943 -Model:

Reference Readings

Veletic.	Reference Readings		9					
Check Sources	s	ID#	Activity (dpm)	60 Second Bkg (cpm)	60 Second Bkg Gross Check Source Net Check Source (cpm) (cpm)	Net Check Source (cpm)	Expected -20% (cpmx0.8)	Expected +20% (cpmxl.2)
	Sr 90	K323	40. Buc.	256	12,100	11844	9,475	14213

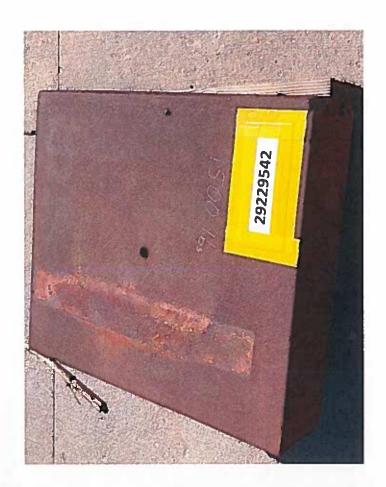
RCT name D. ORA'S

Z-number 3242.

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Date Reference Readings Established: 11/14/11

reflormatice rest Nesdills	ומאר ואמא	calify					Background	Background / Sample Count Time: 60 seconds
Date/Time	Background (cpm)	ຜັ້	ž	Pass/ Fall	RCTZ Number	RCT Name	RCT Signature	Comments
	Š	(moral	(cbm)					
1 12 M C 0200	رمه	Ca.8.1	1540	رد <i>۲</i>	324700	D (D@D	QQ	
2(12/14 1030	316	になな	11582	PASS	331239	B. Abhar	Z	
4/1/19e1330 310	1310	11.900	11590	har	32thac	D. (376v)	A Q	
9-2-10/07-2-h	415	078'N	98411	fass		M. MASTONALLO	The state of the s	
4-3-19/0805 291	162	11,700	bohin	7055	31513व	315139 A Myscarella	Mary Mary	
1-4-10/072 312	212	11,700	11,388	Pass	515130	4. Muscarlla	WW. THAN	
4-16-19 1075	308	(1), 600	26211	5000	डा <u>५</u> १३९	M. Hyscardla	MAN MINNS	
4/24/1. C 15.	ורב	11.80	11.73	Dat	ינטע	J. Us		(3.1
5/13/19 @ 1230 258	258	00611	11 642	PASS	336687	L. Stanska	Jan 1 Jan	
5.14.19 @0800	277	11900	11623	PASS	3365B2	L. SHARJSKY	of the Company	METAL CLEADANCE
5.15.19 @ 0800	291	12.150	11809	PASS	334582	AAROVHS -1	1/1/18	METAL CLEMANICE
							8 .	









Date/Time:			Item Barcode	Numbers
05.16.19 1000)			
Photo File Nam	ie:		29229	543
ltem Descripti	on, including any process and	historical knowled	ige	
Golf Package (3	65 Lot):			
G1 – 1185 lbs s	hield block			
G2 – 1130 lbs s	hield block			
G3 – 1263 lbs s	hield block			
G4 – 1215 lbs s	hield block			
G5 – 2975 lbs s	hield block			
				 .
Evaluation				
Survey	Below release criterion? (Y/N)	Releasable? (Y/N)		
Direct Beta	Y	Y		
Smear	Y	Y		
Direct Gamma	Y	Y		
Comments				
All items survey	ed are shield blocks of varies wei	ghts and sizes.		
All items were i	not in the direct path of the beam			
L. Sha	arisky And A	SAR	336582	21 MAY 19
RCT I		ignature	Z-Number	Date
K. N	leal Mh	(May)	331301	5.21.19
RCT N	Name //S	ignature	Z-Number	Date
M. D	uran —	Durs	106440	વામાંવ
		ianature	7-Numher	Date

Item Release Survey—Direct Beta and Gamma Survey

Date: 05.16.19	Time: 1000	No. samples: 16
TA: 53	Building: 365	Room: Parking Lot
L. Sharisky	Louis I ak	336582
RCT Name	Signature	Z Number
K. Neal	Whole Man	331301
RCT Name	Signature	Z Number

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7488	7488	01.08.20	197	30%	129.16

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15028	15028	08.09.19	68	107

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	68
2	56
3	70
4	76
5	71
Average	68

RP Tracking Number



29229543

Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	G1 – Top Side	214	Y [1]	61	Y
2	G1 – Bottom Side	152	Y [2]	75	Y
3	G2 – Top Side	219	Y [3]	63	Y
4	G2 – East Side	222	-	66	Y
5	G2 – South Side	219	•	69	Y
6	G2 – West Side	234	-	65	Y
7	G2 – North Side	209	-	52	Y
8	G2 – Bottom Side	200	Y [4]	69	Y
9	G3 – Top Side	228	Y [5-6]	58	Y
10	G3 – Bottom Side	189	Y [7-8]	69	Y
11	G4 – Top Side	229	Y [9]	62	Y

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
12	G4 – Bottom Side	176	Y [10]	79	Υ
13	G5 – Top Side	231	Y [11-13]	66	Υ
14	G5 – Bottom Side	171	Y [14-16]	73	Υ
N/A	END OF SURVEY	N/A	N/A	N/A	N/A
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	RP Tracking Number				
	29229543				
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		:	-		
\perp				-	_
+					
\perp					
+					_
+					
N/A	N/A	N/A	N/A	N/A	N/A

Batch ID:

TA-53 Samples - 201905171520

Group:

Device:

S5XLBG Unit2

Batch Key:

7235

BC#: Bldg:

29229543

RP Tracking Number

29229543

Count Date:

5/17/2019 3:20:27PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate: Beta Rate:

Gamma Rate:

0.00 0.00 1.80 0.60 155.20 5.57 Alpha: Beta:

31.11 ± 0.11 44.44 ± 0.11

Gamma: 8.80

N = 236.39

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190517152027-E1	6.43	4.55	8.70	-4.05	1.35	16.97	-93.18
20190517152157-E2	0.00	0.00	8.70	0.45	3.46	16.97	259.09
20190517152307-E3	0.00	0.00	8.70	2.70	4.12	16.97	-81.82
20190517152417-E4	0.00	0.00	8.70	2.70	4.12	16.97	20.45
20190517152537-E5	3.21	3.21	8.70	9.45	5.67	16.97	-2.27
20190517152647-E6	0.00	0.00	8.70	-1.80	2.62	16.97	350.00
20190517152757-E7	0.00	0.00	8.70	2.70	4.12	16.97	145.45
20190517152908-E8	3.21	3.21	8.70	0.45	3.46	16.97	20,45
2 <mark>0190517153028-E9</mark>	0.00	0.00	8.70	-4.05	1,35	16.97	304.55
20190517153138-E10	3.21	3.21	8.70	-4.05	1.35	16.97	168.18
20190517153248-E11	3.21	3.21	8.70	-4.05	1.35	16.97	-13.64
20190517153358-E12	0.00	0.00	8.70	0.45	3.46	16.97	9.09
20190517153508-E13	0.00	0.00	8.70	0.45	3.46	16.97	179.55
20190517153628-E14	0.00	0.00	8.70	-1.80	2.62	16.97	-229.55
20190517153738-E15	0.00	0.00	8.70	2.70	4.12	16.97	-2.27
20190517153848-E16	0.00	0.00	8.70	2.70	4.12	16.97	134.09

* SMEARS #2, 6, 9 recounted. Results on following page.

Reviewed by

Page 1 of 1

C:\Users\Canberra\AppData\Local\Temp\LANL sample report (6DBA09FF-0539

Print Date

5/17/2019 3:40:04PM

Print Time

All Smears<MDALin

Batch ID:

TA-53 Samples - 201905171542

Group:

Device:

BC#:

Bidg:

S5XLBG Unit2

Batch Key:

7236

RP Tracking Number

29229543

Count Date:

5/17/2019 3:42:15PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate: Beta Rate:

0.00 0.00 0.60 1.80 ±

Alpha: Beta:

31.11 ± 0.11

44.44 ±

MO4: 236.39

Gamma Rate:

155.20 5.57

Gamma:

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	Beta MDA (dpm)	<u>Gamma</u> (dpm)
20190517154215-E2 ¬	0.00	0.00	8.70	4.95	4.70	16.97	236.36
20190517154346-E6	0.00	0.00	8.70	-1.80	2.62	16.97	9.09
20190517154456-E9	0.00	0.00	8.70	0.45	3.46	16.97	-59.09

* Smear # 2 recounted. Results on the following page-

All Smears<MDALimits

Melmy Nun

Page 1 of 1

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {639BB9E9-5531

Print Date

5/17/2019 3:46:11PM

Print Time

Batch ID:

TA-53 Samples - 201905171547

Group:

Ε

Device:

BC#:

Bldg:

S5XLBG Unit2

Batch Key:

7238

RP Tracking Number

29229543

Count Date:

5/17/2019 3:47:52PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate: Beta Rate:

0.00 ± 0.00 1.80 ± 0.60 155.20 5.57

Alpha: Beta:

31.11 ± 0.11 44.44 ± 0.11

8.80

Efficiency (%)

(mor = 236.39

Gamma Rate: Sample ID

20190517154752-E2

<u>Alpha</u> (dpm) 0.00

Unc 0.00 Alpha MDA (dpm) 8.70

Gamma:

<u>Beta</u> (dpm) 4.95

<u>Unc</u>

4.70

Beta MDA (dpm) 16.97

Gamma (mqb) -138.64

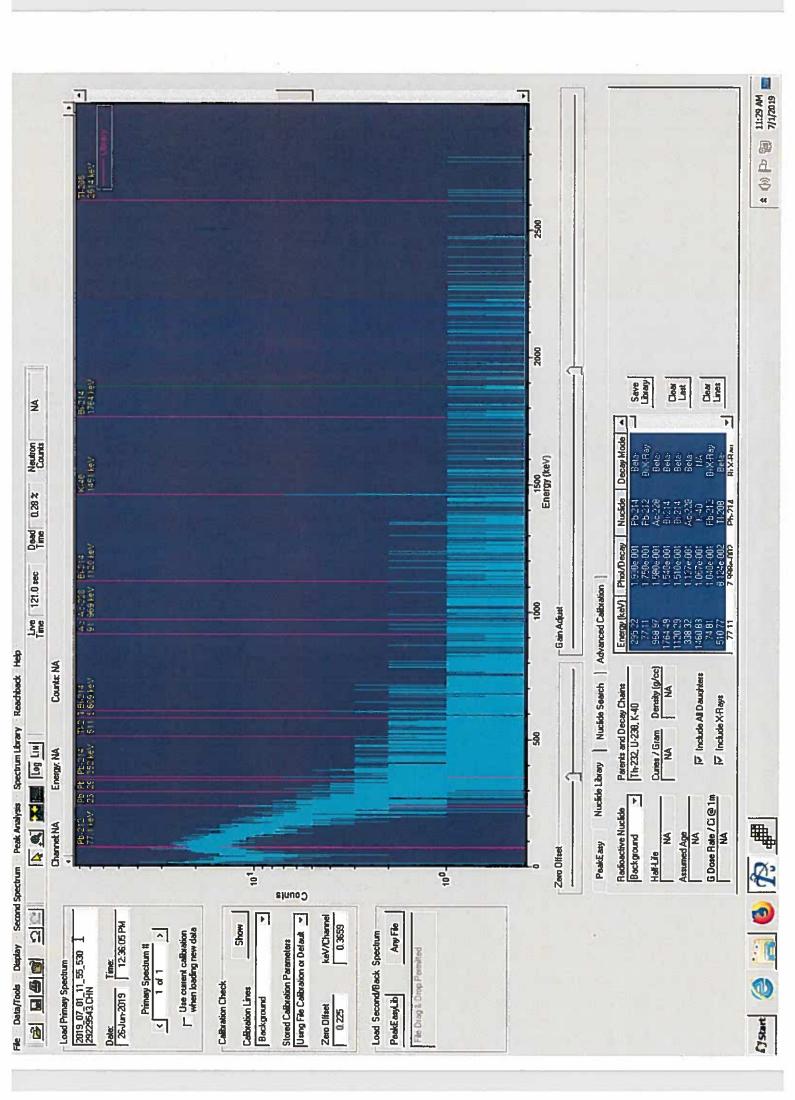
All Smears<MDALimits

Reviewed by:

My Mm

C:\Users\Canberra\AppData\Locai\Temp\LANL sample report {E595904E-9EE3

Print Date Print Time 5/17/2019 3:49:28PM



Los Alamos BETA/GA

BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG

HSE# (P/N): 007 485

Model: ESP-1

Eberline

Instrument Manufacture:__

Cal. Due Date: \$1/08/25 Location: TA-53, MPE-3R, Rm. 141

METAL CLEARANCE / MONTHY METAL CLEADANCE METAL CLEARAGICE METAL CLERRANCE METAL CLENRANCE D38-00 bates Comments ±20%:721/0 to 1082/dpm METAL Check Source 2.6uci Reference: 9020 LANGEL BHABEN Jam JOSE Activity:_ Isotope:_ Printed Name/Signature SHARKY 3316592 Z Number L-SHARKEY L-SIMRISEY L. SHARISKY L. SHARISKY C.Sheelspor Ν N/A Pass/Fail PASS PASS PA 55 PASS PA 35 PASS ¥ ΧŽ Sigriature Check Source Reading 8757 9000 2068 8362 6999 8440 Net Reference Reading Scale 4 ΑX N/A <u>لا</u> لا 4 4 2 **∀**/2 くて ₹ Acceptance Range (± 20%) 892 dpm/ 1338dpm Net Reference Reading Scale 3 Filter Position or Range: Open Scale dpm dpm LAUREL 3 SHARISKY RCT Name ム/ス 47 とくて くこ ***** 1115 030 Net Reference Reading Scale 2 Reference Reading: Net Reading: <u> ۲</u> <u>لا</u> ك 4 7 4/2 ۸/۸ せんと Net Reference Reading Scale 1 osareas Date Reference Readings Established 1149 1085 1043 12.37 1168 1160 Background Reference Source Bkg: الاعتادة الاعتادة (200 - عدد الاعتادة) Activity: 40.83uci 213 157 7 70 10,7 Sr⁹⁰ 02 MAY/1300 Pob MANTA/OUIS HMATIN /0000 080 OBHAYFA/082D ISMMA /otoo Isotope:__ WAMIS.

RadEye SX/L44-3 Performance Test Log

Count time: 60 seconds Cal Due Date: 8/0 /10 Instrument PN: 1502y 3/2 RadEye SX /Ludlum 44-3 - EST.1943 -

Reference Readings

Model



				-1	1	i		
Cherk Sources	Sofotos	1134	Activity	60 Second Bkg	Gross Check Source	Net Check Source	Expected -20%	Expected +20%
			(dpm)	(cbm)	(cbm)	(cbm)	(cpmx0.8)	(cpmxl.2)
	5r 40	4323	40.1326.	25%	00/17/	55811	9.47×	14213

RCT name D. (Dan Date Reference Readings Established: 1/14/11

Signature:

Z-number: 3242°C

Performance Test Results

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Performance Test Results	Test Res	ults					Background	Background / Sample Count Time; 60 seconds
	Background	Gross Check	Net Check		RCT7	:		
Date/Time	(cpm)	Source (cpm)	Source (cpm)	Pass/ Fall	Number	RCT Name	RCT Signature	Comments
CC100 0 14917	مهار	11800	1840	Pass	324700	D.(D.Ch	RQ	
2/12/18 1030	318	7 bil	11582	PASS	331239	B. Abhan	Z	
4/1/19 6 13:00	310	11.900	11590		32thar	D. (m/cm	Ą	
4-2-19/07-2-4	314	W,800	11,486	0	કાફાકવ	M. Musicanella	MAY MAN	
4-3-10/0805	162	11,700	11,409	7055	315139	315139 A MUSCARILLA	WAY MAN	
1-4-14/0735	315	11,700	11,388	Pass	डाड्राड्य	14- Muscarella	MATHAN	
4-16-19 107-55	308	11,600	2/21/1	2007	515139	M. Myscardla	MAN / MINN	
برعد// _{اله} د عن.	/רב	11.80	11.72	Dat	ענאל	1,05		رق
5/13/19 P. 1230 258	258	00617	11 642	PASS	336587	L.Suanská	Mark ton	
5.14.19 @0800	277	11900	11623	PASS	336502	L. SHARJSKY	Land alland	METAL CLEBOANCE
5.15.19 @ 0800	29,1	72.100	11809	PASS	33 LS 82	AARONNS -7	11 MBB	METAL CLEMENCE
							2	





Date/Time:				item Barcode i	Numbers
05.22.19	0945				£
Photo File Nam	ie:			29229	544
Item Descripti	on, including any process and	historical kno	wledge		
Gray block with	protrusion underneath;				
Approximately	15 inches x 51 inches				
0.					
Evaluation			, , , , , , , , , , , , , , , , , , , 		
Survey	Below release criterion? (Y/N)	Releasable? (Y/N)		
Direct Beta	γ	Υ			
Smear	Y	Υ			
Direct Gamma	Y	Υ			
Comments					
1					
Item was not in 	the direct path of the beam.				
		_			
	\mathcal{O}	111	1		
L. Sha		ignature		336582 Z-Number	2ZMM 19 Date
NC11		1			
K. N		They	<u>) </u>	331301	5.22.19
RCT I	vame 3	gnature		Z-Number	Date
M. D		Drue		106440	9/11/19
HPFC R	eviewer	ignature		Z-Number	Date

Item Release Survey—Direct Beta and Gamma Survey

Date: 05.22.2019	Time: 0945	No. samples: 10
TA: 53	Building: 365	Room: Parking Lot
L. Sharisky	Lund I St	336582
RCT Name	Signature (Z Number
K. Neal	Helen Mun	331301
RCT Name	Signature	Z Number

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7448	7448	01.08.20	176	30%	122.63

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15028	15028	08.09.2019	70.4	115

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	70
2	73
3	61
4	83
5	65
Average	70.4



Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	Gray Block – Top Side	242	Y [1-2]	68	Y
2	Gray Block – South Side	215	Y [3]	75	Y
3	Gray Block – West Side	170	Y [4]	59	Y
4	Gray Block – North Side	184	Y [5]	84	Y
5	Gray Block – East Side	193	Y [6]	59	Υ
6	Gray Block – Bottom	184	Y [7-10]	91	Υ
N/A	END OF SURVEY	N/A	N/A	N/A	N/A
T	T	T	T	Ī	T
1	Ţ				Į.
N/A	N/A	N/A	N/A	N/A	N/A

Survey Area	Item/Area	Direct Be (dpm)		Smear en? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N
N/A	N/A	N/A		N/A	N/A	N/A
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	RP Tracking Numb					
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N/A	N/A	N/A		N/A	N/A	N/A

Batch ID:

TA-53 Samples - 201905221518

Group:

Device:

S5XLBG Unit2

Batch Key:

7288

BC#:

Bldg:

29229544

RP Tracking Number

29229544

Count Date:

5/22/2019 3:18:27PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate: Beta Rate:

0.00 ± 0.00

1.80 0.60 Efficiency (%)

Alpha: Beta:

31.11 ± 0.11 0.11 44.44 ±

(= 250.63

Gamma Rate:	155.20 :	± 5.57	Gamma:	8.80			
Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	<u>Beta</u> (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190522151827-E1	6.43	4.55	8.70	-1.80	2.62	16.97	225.00
20190522151958-E2	3.21	3.21	8.70	-4.05	1.35	16.97	259.09
20190522152108-E3	3.21	3.21	8.70	-1.80	2.62	16.97	-93.18
20190522152218-E4	0.00	0.00	8.70	11.70	6.10	16.97	145.45
20190522152338-E5	0.00	0.00	8.70	2.70	4.12	16.97	-13.64
20190522152448-E6	0.00	0.00	8.70	-1.80	2.62	16.97	236.36
20190522152558-E7	0.00	0.00	8.70	0.45	3.46	16.97	-184.09
20190522152708-E8	0.00	0.00	8.70	4.95	4.70	16.97	54.55
20190522152829-E9	0.00	0.00	8.70	0.45	3.46	16.97	-13.64
20190522152938-E10	3.21	3.21	8.70	2.70	4.12	16.97	156.82



Reviewed by:

Page 1 of 1

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {642B39E7-DA29

Print Date

5/22/2019 3.30.54PM

Print Time

Batch ID:

TA-53 Samples - 201905221540

Group:

BC#:

Bldg:

Device:

S5XLBG Unit2

Batch Key:

7290

29229544

RP Tracking Number

Count Date:

5/22/2019 3:40:40PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate: Beta Rate:

Gamma Rate:

0.00 ± 0.00

1.80 ± 0.60 155.20 5.57 ±

Efficiency (%)

Alpha: Beta:

Gamma:

31.11 ± 0.11 44.44 ± 0.11

8.80

V = 250. 63

Sample ID

Alpha (dpm)

<u>Unc</u>

Alpha MDA (mqb)

Beta (dpm) Unc

Beta MDA (dpm)

Gamma (dpm)

20190522154040-E2

0.00

0.00

8.70

4.95

4.70

16.97

145.45

All Smears<MDALimits

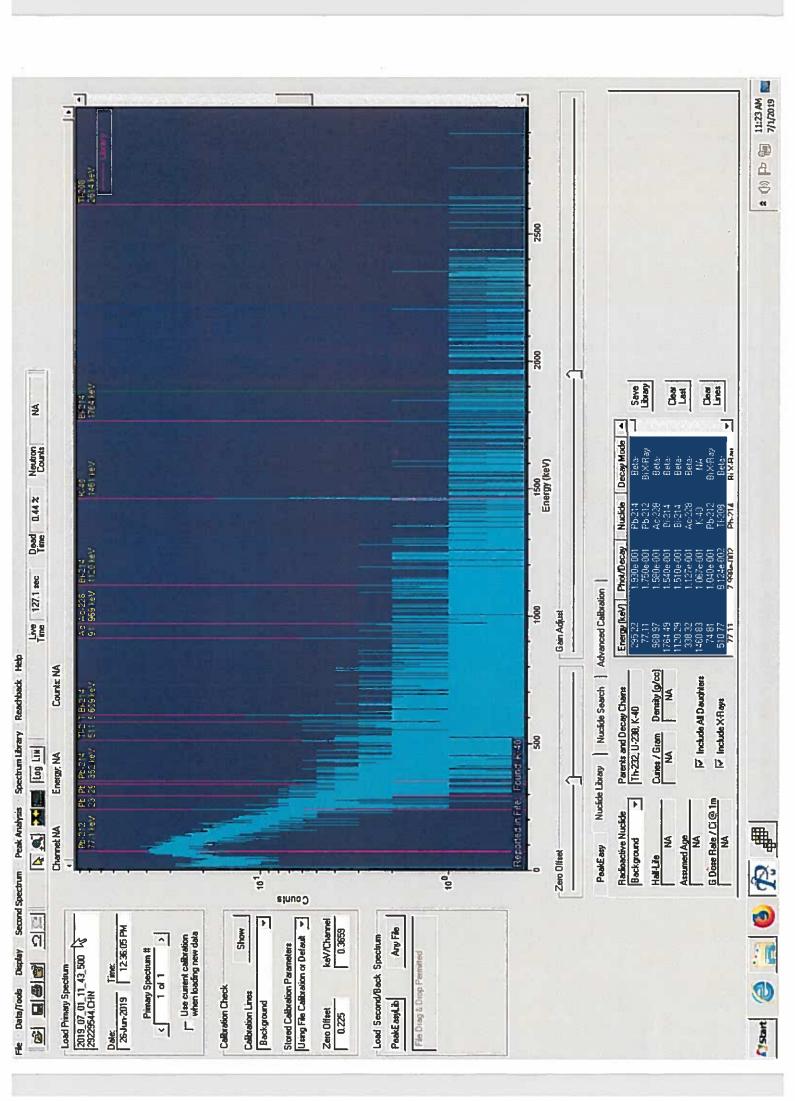
Reviewed by

Page 1 of 1

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {74CA6394-CF4(

Print Date **Print Time**

5/22/2019 3:42:16PM



Los Alamos BE

BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG

Instrument Manufacture: Eberline

Cal. Due Date: 01/08/20 Location: TA-53, MPF-3R, Rm. 141 HSE# (P/N): 007 485 Model: ESP-1

METAL CLEARANCE / MONTHLY CHECK NETAL CLEMEANCE METAL CLEARANCE METAL CLEADAIGE METAL CLEARABLES METAL CLEARANCE METAL CLENRANCE 2536 D38-00 1272 Comments ±20%:7216 to 10824dpm Check Source 2.6µci D-38 Reference: 9020 Souther . □ #: |sotope:_ Activity:_ Printed Name/Signature SHARKSKY 3310597 8 LAWREL SHARKY L. SHARBEY L-SHARISKY L-SHARIGKY L. SHARIGKY L. Shagaisky L'SHREUENCY X ¥ 4 Pass/Fail PASS PASS PA 55 PASS PASS 2865 PASS Ϋ́ Ν Signature Check Source Reading 9000 2068 578 8362 8663 8440 8910 Net Reference Reading Scale 4 Ν ΑN Q ۸ \ الا 4 4/2 W/W **₹/2** NIA Ϋ́ Acceptance Range (± 20%) 892 dpm/ 1336dpm Net Reference Reading Scale 3 Open Scale шдр dpm LAUREL 3 SHARISKY RCT Name 4/7 せくつ 4/7 4/2 ところ ٧/٧ ž Reference Reading: 1310 5111 Filter Position or Range: Net Reference Reading Scale 2 Net Reading: <u>ج</u> 2 さて × 72 せつ とコ せんだ ٨/٧ Net Reference Reading Scale 1 Date Reference Readings Established 1149 1085 1043 1237 1168 1100 1160 Background Reference Source Bkg: १९५५ dpm (२००-३०० रिन्ह्या) 213 Activity: 40.83uci 195 157 21 2 200 K-323 197 Sr³⁰ 02 MAY/1300 שאוש/סשוט HMM 17 /0000 CONTANTA/082D 080 IS MM PA /ODOD 0740 Isotope: Date/Time NAMMA!

RadEye SX/L44-3 Performance Test Log

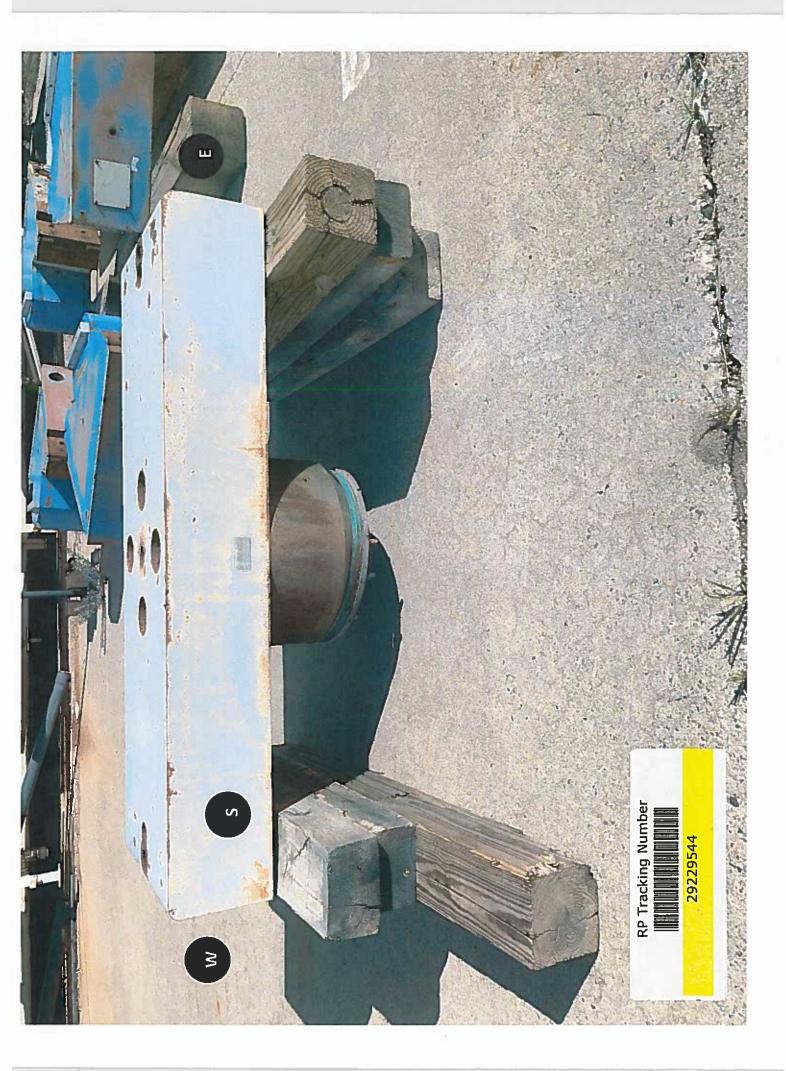
TA:	53	Bldg:	312	Rm:	H171	()	Instrument PN: 15029	Cal Due Date:	6/10/8	
Model:	RadEye SX /Lu	ıdlum 44-3								Count time: 60 seconds

Reference Readings

Chack Sources	enotos	#WI	Activity	60 Second Bkg	Gross Check Source	Net Check Source	Expected -20%	Expected +20%
000000000000000000000000000000000000000			(mdp)	(cbm)	(cpm)	(cbm)	(cpmx0.8)	(cpmxl.2)
	Sr 40	K323	40. Bh.C.	256	00/17/	11849	9,475	14213
DateReference	ate Reference Readings Established	81/4/11	RCT name:	. (Oak	Signature	900	Z-number	Z-number 3242°C

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ביוחנים ופשר ואפשונט	ו באר ואבא	CILIC					Background	Background / Sample Count Time, 60 seconds
	Background	Gross Check	Net Check		PCT7			
Date/Time	(cpm)	Source (cpm)	Source (cpm)	Pass/ Fall	Number	RCT Name	RCT Signature	Comments
LIFM @ ONDO	360	CO\$ \\	1241	Pass	324700	D.(080	(VQ	
2/12/14 1030	318	11.9 ス	11.582	PASS	331239	B. AB/452-	Z	
4/1/110130	310	00 6.11	11590	_ ا	32than	O. Caren	A A	
9-2-19/07-5-H	7118	078'N	11,486	١.	ડાણકવ	M. Musicanella	JUNY LAND	
4-3-10/0805 291	162	3,700	11,409	Pass	315139	M. Muscarella	W. L. M.	
4-4-19/07-8 312	212	375	11,388	Pass	\$19730	14- HUBCARILA	MATHAN	
4-16-19 10735 308	308	11,600	21,211	2007	515139	M. Hyscarells	MAN COM	
الم	וענ	11.80	11. 532	Dar	45/ر	1.00		(3.1
5/13/19 @ 1230 258	258	00611	2 hd 11	PASS	336587) Systakte	Mark took	
5.14.19 @0800	277	11900	11623	PASS	3365	L- SHARISKY	Kind of Land	METAL CLERRANCE
5.15.19 @ 0800	29,1	7.100	11809	PASS	334582	1-1 2445 -1	1/ Mest	METAL CLEMANICE
5-22-19 @ 0140	ורב	11200	6260	PASS	28286	र्श्वक्राडाङ्ग	12. 20 d Co.	MEDIL CIENTANCE
							y a y	





Date/Time:			Item Barcode N	lumbers
06.10.2019 0	830			
Photo File Nam	e:		29219	680
tem Descripti	on, including any process and	historical know	ledge	
Two blue eye b	olts (labelled alpha and bravo)			
Ten blue eye-be	eams (labelled with roman nume	rals)		
Evaluation		Ta. 11.20		
Survey Direct Beta	Below release criterion? (Y/N) Y	Releasable? (Y	N)	
Smear	Y	Y		
Direct Gamma	Y	Y		
Direct Gainina	'	ļ '		
Comments				
Objects were n	ot in the direct beam path.			
L. Sha		Signature 8	336582 Z-Number	<u>09.11.19</u> Date
	Alan A	a days	1.10.01	
	va-Munoz (XUANO) Vame	U. () () V M - V Signature	295558 Z-Number	09-11-19 Date
M. D	۸	Ω ₂ 441 —	106440	9/11/19
		Signature	7-Number	Date

Item Release Survey—Direct Beta and Gamma Survey

Date: 06.10.2019	Time: 0830	No. samples: 29
TA: 53	Building: Spoils Lot	Room: Radiation Area
L. Sharisky	Land Sha	336582
RCT Name	Anguature C	Z Number
A. Loya-Munoz	Ulyanta kaya-	Mrnoy 295558
RCT Name) Signature(/	2 Number

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7488	7488	01.08.2019	184	30%	125.16

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15028	15028	08.09.19	63.2	100

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	60
2	57
3	68
4	55
5	76
Average	63.2

Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	Eye Bolt - Alpha	233	Y [1-4]	88	Υ
2	Eye Bolt - Bravo	217	Y [5-8]	71	Υ
3	Eye Beam – I Top	215	Y[9]	77	Υ
4	Eye Beam – I Bottom	196	Y [10]	85	Y
5	Eye Beam – II Top	225	Y [11]	69	Y
6	Eye Beam – II Bottom	212	Y [12]	90	Y
7	Eye Beam – III Top	214	Y [13]	82	Y
8	Eye Beam – III Bottom	191	Y [14]	89	Y
9	Eye Beam – IV Top	199	Y [15]	64	Υ
10	Eye Beam – IV Bottom	224	Y [16]	78	Υ
11	Eye Beam – V Top	213	Y [17]	69	Υ

Survey Area		Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
12	Eye Beam – V Bottom		206	Y [18]	75	Y
13	Eye Beam – VI Top		188	Y [19]	89	Υ
14	Eye Beam – VI Bottom		205	Y [20]	82	Y
15	Eye Beam – VII Top		163	Y [21-22]	76	Y
16	Eye Beam – VII Bottom		201	Y [23]	71	Y
17	Eye Beam – VIII Top	·	197	Y [24]	96	Y
18	Eye Beam – VIII Botton	<u> </u>	221	Y [25]	72	Y
19	Eye Beam – IX Top		223	Y [26]	85	Y
20	Eye Beam – IX Bottom		185	Y [27]	85	Y
21	Eye Beam – X Top		183	Y [28]	88	Y
22	Eye Beam – X Bottom		153	Y [29]	96	Y
N/A	END OF SURVEY		N/A	N/A	N/A	N/A
T		Т	T	ī	T	T
		V				
\top						
\top		80 X 2 9				
\top						
\top						
\dashv						+
+						1
+						
+						-
1						+
N/A	N/A		N/A	N/A	N/A	N/A

Batch ID:

TA-53 Samples - 201906101056

Count Date:

6/10/2019 10:56:09AM

Group:

Ε

Count Minutes:

1.00

Device:

S5XLBG Unit2

Count Mode:

Simultaneous

Batch Key:

7456

Background (cpm)

Operating Volts:

1335

BC#:

828

29219680

Gamma Volts:

Selected Geometry

5/16" Stainless Steel

Bldg:

Efficiency (%)

Alpha Rate: Beta Rate:

Gamma Rate:

0.00 ± 0.00 1.80 ± 0.60

± 5.57

155.20

Alpha: Beta:

Gamma:

31.11 ± 0.11

44.44 ± 0.11

8.80

7 MDA: 260.07 dyn

Gamma Rate:	100.20	5.07	Gaiiiiia.	0.00			
Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190610105609-E1	0.00	0.00	8.70	-1.80	2.62	16.97	-184.09
20190610105909-E2	0.00	0.00	8.70	-1.80	2.62	16.97	-297.73
20190610110020-E3	0.00	0.00	8.70	-4.05	1.35	16.97	88.64
20190610110130-E4	3.21	3.21	8.70	-4.05	1.35	16.97	-93.18
20190610110250-E5	3.21	3.21	8.70	0.45	3.46	16.97	-252.27
20190610110400-E6	0.00	0.00	8.70	0.45	3.46	16.97	-161.36
20190610110510-E7	0.00	0.00	8.70	0.45	3.46	16.97	-93.18
20190610110620-E8	3.21	3.21	8.70	-4.05	1.35	16.97	-93.18
20190610110740-E9	0.00	0.00	8.70	7.20	5.21	16.97	88.64
20190610110850-E10	0.00	0.00	8.70	0.45	3.46	16.97	145.45
20190610111000-E11	0.00	0.00	8.70	-1.80	2.62	16.97	-70.45
20190610111110-E12	0.00	0.00	8.70	-1.80	2.62	16.97	122.73
20190610111220-E13	3.21	3.21	8.70	-1.80	2.62	16.97	-206.82
20190610111340-E14	0.00	0.00	8.70	-4.05	1.35	16.97	-13.64
20190610111450-E15	0.00	0.00	8.70	-1.80	2.62	16.97	-59.09
20190610111600-E16	0.00	0.00	8.70	-1.80	2.62	16.97	-70.45
20190610111710-E17	3.21	3.21	8.70	0.45	3.46	16.97	-47.73
20190610111830-E18	0.00	0.00	8.70	-1.80	2.62	16.97	-104.55

Batch ID:

TA-53 Samples - 201906101056

Count Date:

6/10/2019 10:56:09AM

5/16" Stainless Steel

Group: Device: E

S5XLBG Unit2

Count Minutes: Count Mode:

1.00 Simultaneous

Batch Key:

7456

Operating Volts:

1335

BC#:

29219680

Gamma Volts:

Bldg:

Selected Geometry

828

Background (cpm) Efficiency (%)

Alpha Rate: Beta Rate:

0.00 ± 0.00 1.80 ± 0.60

Alpha:

31.11 ± 0.11 44.44 ± 0.11

JMDA: 260.07 dpm

Gamma Rate:

155.20 ± 5.57 Beta: Gamma:

8.80

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	Beta MDA	Gamma
20190610111941-E19	0.00	0.00	8.70	2.70	4.12	(dpm) 16.97	<u>(dpm)</u> 100.00
20190610112051-E20	3.21	3.21	8.70	-1.80	2.62	16.97	31.82
20100610112201 E21	0.00	0.00	9.70	0.45	2.40	40.07	205.00

20190610112051-E20	3.21	3.21	8.70	-1.80	2.62	16.97	31.82
20190610112201-E21	0.00	0.00	8.70	0.45	3.46	16.97	225.00
20190610112321-E22	0.00	0.00	8.70	0.45	3.46	16.97	-93.18
20190610112431-E23	0.00	0.00	8.70	-1.80	2.62	16.97	-184.09
20190610112541-E24	3.21	3.21	8.70	2.70	4.12	16.97	-172.73
20190610112651-E25	0.00	0.00	8.70	0.45	3.46	16.97	9.09
20190610112801-E26	3.21	3.21	8.70	0.45	3.46	16.97	134.09
20190610112921-E27	0.00	0.00	8.70	0.45	3.46	16.97	-59.09
20190610113031-E28	0.00	0.00	8.70	-1.80	2.62	16.97	20.45
20190610113141-E29	0.00	0.00	8.70	-1.80	2.62	16.97	-59.09

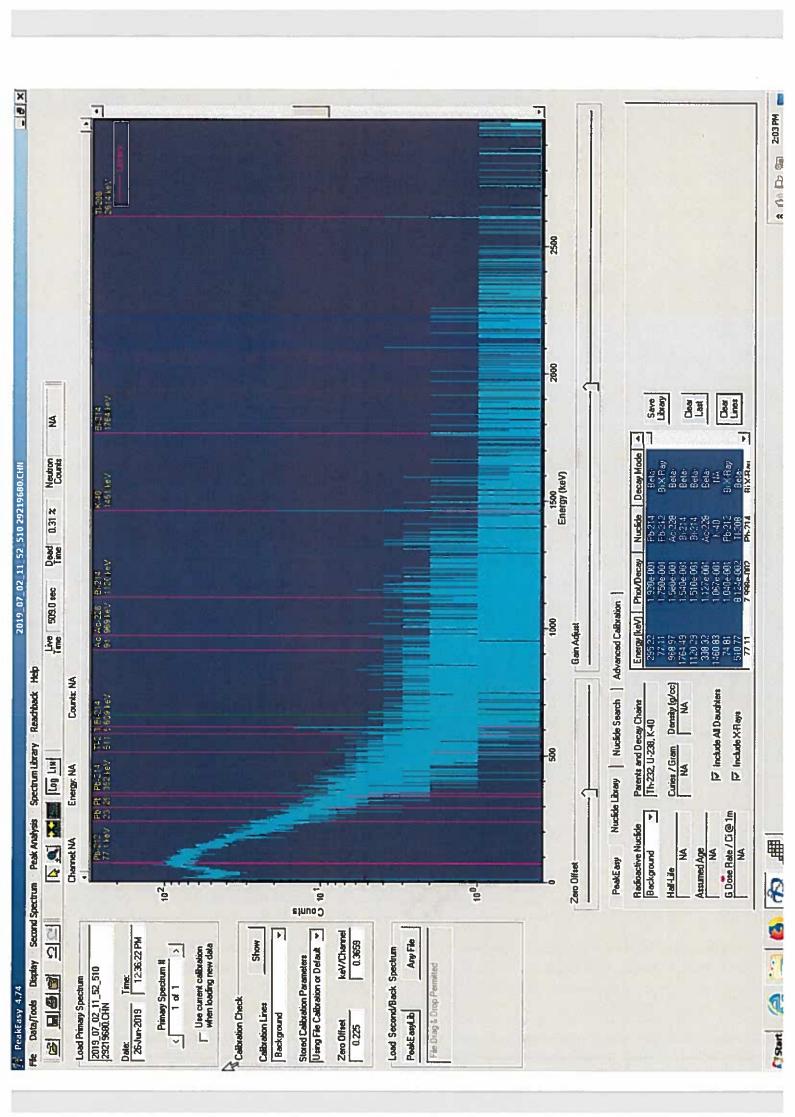
Less than table 14-2 Limits ALL SMEARS < MDA

Yamel 10

Page 2 of 2

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {0BEEB84F-C6A

Print Date Print Time 6/10/2019 11:32:57AM



Los Alamos BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG

_ Model: ESP-1 HSE# (P/N): DOT 485 Cal. Due Date: CIZeE/25 Location: TA-53 MPF-38, Rm. 141 ID#: D38-00 3かん ± 20%; 721/0, to 108/24dpm Reference: 9000 dpm Check Source 2.6uci D-38 Activity:___ lsotope:_ J SHARKSKY SCHOEST N/A Ν 4 Ϋ́ Signature Y N Ϋ́ Q Acceptance Range (± 20%) 842 dpm/ 1338dpm Filter Position or Range: Open Scale dpm LAUREL 3 SHARISKY RCT Name Reference Reading: 1310 Net Reading: 1115 Eberline Date Reference Readings Established Instrument Manufacture:___ Reference Source Bkg: 45 dpm (200 - 300 ادام) Activity: 40.8311ci ID: K-323 တ မ |sotope:__

		MONTEN	OHEG												
	Comments	METAL CLEARANCE	CLENEMICE	METAL CLEMONOS	ı v	METAL CLENANDLE	METAL CLEARANCE			METAL CLERANCE					
-	Con	Me	METAL	2	K	M K	ME.	NETA		MB			_	_	
	Printed Name/Signature	La Sauffer	Confess	Open hall	John Miles	S COM	000	The solution of the solution o	R. H. H	John Sol	2 '	,	 ,	,	_
	Printed Na	LAWRE L SHABER	L. SHARISKY	L-SHARISKY	Josen and to 1	L-SIMRISEY	L-SHARGEY	L. Sypaleky	L. SHARISKY	L. SHARISKY					
	Pass/Fail	PASS	PAGS	PASS	PASS	PASS	PASS	886	PASS	RE					
	Check Source Reading	9000	2048	8767	8362	8663	8440	8910	8570	8619					
	Net Heterence Reading Scale 4	N/A	N/A	۵/۵	N/N	W/W	A/4	N/A	M/A	W/A					
	Net Helerence Reading Scale 3	4/2	N/A	M/A	NIA	4/1	₩/₩	6 7	4/14	N/A			5		
	Net Heterence Reading Scate 2	NA	N/A	4/ N	4/2	NA	⊌/∾	8/2	N/A	N/8					
	Net Helerence Reading Scale 1	1149	1085	12.87	1043	1168	०वा	معادا	1080						
	Background	211	195	213	157	ia7	01	200	200	151					
	Date/Time	02 MAY/1300	DO MANIA/OGIG	OBMATITY /082D	HMAT IN JOBOD	IS MAY PA JOEGO	WAMIN / 0800	22MATH / 0740	0071 larvergo	DOBO / DRANGI		:			



RadEye SX/L44-3 Performance Test Log

Count time: 60 seconds Cal Due Date: os .or . 19 15028 Instrument PN: 8141 Rm 38 Model: RadEye SX /Ludlum 44-3

Reference Readings

			•									
Expected +20% (cpmxl.2)	78 KG7		7 2-number: 3845.62	Background / Sample Count Time: 60 seconds	Comments		GE		PARANCE			
Expected -20% (cpmx0.8)	8739	0	Z-number	ound / Sample Co.		1	DA NEW PAGE		METRY CLEARINGE	9		
2	18923 x		Lun O Bl	2	RCT Slanature		Lour Pull of	Employ B	6.01	8. (
Gross Check Source (cpm)	11200		Signature		RCT Name		י מופרא	מופגנ	L. SHARISKY			
60 Second Bkg (cpm)	2.17		ARISKY		RCTZ	ıber	82 L. SHARIEKY	82 L SHARISKT			0 22	
9	Ц		SH/		 ଅ	Number	283988	336582	5365-82			
Activity (dpm)	40.83		RCT name: L. SHARNSKY		Pass/ Fall		PREE	PASS	PAGS			
10#					Net Check Source	(cpm)	17/11	hhall	10817			
=	K- 323	_	led: 05.29	ults	Gross Check Source	(срт)	11400	11300	11100			
Isotope	5.90		dingsEstablish	Test Resi	Background	(cbm)	279	25v	283			
Check Sources			Date Reference Readings Established: 으울 2억 1억	Performance Test Results	Date/Time		0121 61,92.30	06.05. 19 1200	Ole.10 .19 effect			





Date/Time:			Item Barcode Numbers
07.18.19 / 0830	1		
Photo File Nam	e:		29229856
Item Description	on, including any process and	historical knowled	dge
Blue Base Supp	ort Structure		⊃e
Rusted Arch wit	h Wire Protrusions (denoted as A	lpha arch)	
Rusted Arch wit	h Wire Protrusions (denoted as B	ravo arch)	
Evaluation			
Survey	Below release criterion? (Y/N)	Releasable? (Y/N)]
Direct Beta	Υ	Y	
Smear	Y	Y	II.
Direct Gamma	Υ	Υ	.6)
Comments			
These three ite	ms were not in the direct beam pa	ath	*
	320	9	
L. Sha RCT II	varau — No	Signature D	336582 09.11.19 Z-Number Date LD64+0 0 11/19
M. D	uran	Signature Signature	Z-Number Date 106440 9 11 1 9 Z-Number Date

Item Release Survey—Direct Beta and Gamma Survey

Date: 07.18.19	Time: 0830	No. samples: 40
TA: 53	Building: SPOIL LOT	Room: SPOIL LOT
L. Sharisky	Sound Da	336582
RCT Name	Signature	Z Number
W. Duran	mho Dun	- LO 6440
RCT Name	Signature	Z Number

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7488	7488	01.08.20	127	30	105.67

Rad Eye with M44-3

	Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
Ì	15028	15028	08.09.19	84	130

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	91
2	74
3	89
4	84
5	82
Average	84

Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	Blue Base Component: Top Protrusions	196	Y [1-6]	103	Y
2	Blue Base Component: Top Surface: South Facing half	220	Y [7-9]	78	Y
3	Blue Base Component: Top Surface: North Facing half	223	Y [10-12]	90	Y
4	Blue Base Component: South Facing Side	198	Y [13-14]	78	Y
5	Blue Base Component: East Facing Side	203	Y [15-17]	75	Υ
6	Blue Base Component: North Facing Side	199	Y [18-19]	51	Y
7	Blue Base Component: Inside Surface: South Facing half	187	Y [20-23]	85	Υ
8	Blue Base Component: Inside Surface: North Facing half	199	Y [24-27]	66	Y
9	Blue Base Component: Bottom	191	Y [28-30]	91	Y
10	Rusted Arch (Alpha): Top side	204	Y [31-33]	64	Y
11	Rusted Arch (Alpha): Bottom Side	199	Y [34-35]	76	Y

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
11	Rusted Arch (Bravo): Top Side	212	Y [36-37]	55	Υ
12	Rusted Arch (Bravo): Bottom Side	185	Y [38-40]	81	Y
N/A	END OF SURVEY	N/A	N/A	81 N/A	N/A
					-
			-		
			 		
		•			
	*				
N/A	N/A	N/A	N/A	N/A	N/A

TA-53 Samples - 201907181114 Batch ID:

Е Group:

Device: S5XLBG Unit2

Batch Key: 7859

BC#: 29229856

Bldg:

7/18/2019 11:14:58AM Count Date:

Count Minutes: 1.00

Count Mode: Simultaneous

Operating Volts: 1335 Gamma Volts: 828

7=247.07

Selected Geometry 5/16" Stainless Steel

Background (cpm)

Alpha Rate: 0.00 ± 0.00 1.80 0.60 Beta Rate: ±

Efficiency (%)

31.11 ± Alpha: 0.11 44.44 ± 0.11

Gamma: 8.80

RP Tracking Number

29229856

Beta: 155.20 ± 5.57 Gamma Rate:

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	<u>Beta</u> (dpm)	<u>Unc</u>	Beta MDA (dpm)	<u>Gamma</u> (dpm)
20190718111458-E1	0.00	0.00	8.70	0.45	3.46	16.97	31.82
20190718111629-E2	0.00	0.00	8.70	-1.80	2.62	16.97	-138.64
20190718111739-E3	0.00	0.00	8.70	2.70	4.12	16.97	-36.36
20190718111849-E4	3.21	3.21	8.70	2.70	4.12	16.97	77.27
20190718112009-E5	0.00	0.00	8.70	2.70	4.12	16.97	111.36
20190718112119-E6	3.21	3.21	8.70	13.95	6.51	16.97	338.64 -
20190718112229-E7	3.21	3.21	8.70	9.45	5.67	16.97	-240.91
20190718112339-E8	0.00	0.00	8.70	4.95	4.70	16.97	20.45
20190718112459-E9	0.00	0.00	8.70	0.45	3.46	16.97	9.09
20190718112609-E10	3.21	3.21	8.70	-4.05	1.35	16.97	236.36
20190718112719-E11	3.21	3.21	8.70	-1.80	2.62	16.97	31.82
20190718112829-E12	3.21	3.21	8.70	4.95	4.70	16.97	-161.36
20190718112940-E13	3.21	3.21	8.70	0.45	3.46	16.97	168.18
20190718113100-E14	0.00	0.00	8.70	-1.80	2.62	16.97	168.18
20190718113210-E15	0.00	0.00	8.70	7.20	5.21	16.97	111.36
20190718113320-E16	0.00	0.00	8.70	2.70	4.12	16.97	20.45
20190718113430-E17	0.00	0.00	8.70	-1.80	2.62	16.97	156.82
20190718113550-E18	0.00	0.00	8.70	-1.80	2.62	16.97	111.36

Batch ID:

TA-53 Samples - 201907181114

Group:

Ε

Device:

S5XLBG Unit2

Batch Key:

7859

BC#:

29229856

Bldg:

RP Tracking Number

29229856

Count Date:

7/18/2019 11:14:58AM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate:

Gamma Rate:

0.00 ± 0.00

Beta Rate:

1.80 0.60 ± 155.20 5.57

Efficiency (%)

Alpha: Beta:

31.11 ± 0.11

Gamma:

44.44 ± 0.11

8.80

8= 247.07dpm

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190718113700-E19	0.00	0.00	8.70	4.95	4.70	16.97	100.00
20190718113810-E20	0.00	0.00	8.70	2.70	4.12	16.97	88.64
20190718113920-E21	0.00	0.00	8.70	2.70	4.12	16.97	43.18
20190718114040-E22	0.00	0.00	8.70	4.95	4.70	16.97	-2.27
20190718114150-E23	0.00	0.00	8.70	-1.80	2.62	16.97	-93.18
20190718114300-E24	0.00	0.00	8.70	2.70	4.12	16.97	-36.36
20190718114410-E25	0.00	0.00	8.70	4.95	4.70	16.97	-13.64
20190718114520-E26	0.00	0.00	8.70	9.45	5.67	16.97	-2.27
20190718114640-E27	0.00	0.00	8.70	7.20	5.21	16.97	9.09
20190718114750-E28	0.00	0.00	8.70	2.70	4.12	16.97	9.09
20190718114900-E29	0.00	0.00	8.70	0.45	3.46	16.97	-115.91
20190718115010-E30	0.00	0.00	8.70	-4.05	1.35	16.97	-25.00
20190718115131-E31	0.00	0.00	8.70	4.95	4.70	16.97	-150.00
20190718115241-E32	0.00	0.00	8.70	4.95	4.70	16.97	-59.09
20190718115351-E33	0.00	0.00	8.70	9.45	5.67	16.97	-36.36
20190718115501-E34	3.21	3.21	8.70	-1.80	2.62	16.97	-206.82
20190718115621-E35	0.00	0.00	8.70	4.95	4.70	16.97	134.09
20190718115731-E36	0.00	0.00	8.70	2.70	4.12	16.97	122.73
20190718115841-E37	0.00	0.00	8.70	-1.80	2.62	16.97	65.91
20190718115951-E38	0.00	0.00	8.70	-1.80	2.62	16.97	281.82

Batch ID:

TA-53 Samples - 201907181114

Group:

E

Device:

BC#:

Bldg:

S5XLBG Unit2

Batch Key:

7859

Sample ID

20190718120101-E39

20190718120221-E40

29229856

RP Tracking Number

<u>Unc</u>

3.21

4.55

29229856

Count Date:

7/18/2019 11:14:58AM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Gamma

(dpm)

-59.09

225.00

Background (cpm)

Alpha Rate: **Beta Rate:**

0.00 ± 0.00 1.80 0.60 ±

Alpha: 31.11 ± Beta:

Efficiency (%)

44.44 ±

V = 247.07 dpm

Beta MDA

(dpm)

16.97

16.97

Gamma Rate:

155.20

<u>Alpha</u>

(dpm)

3.21

6.43

± 5.57 Gamma:

Alpha MDA

(dpm)

8.70

8.70

8.80

Beta

(dpm)

0.45

4.95

0.11

0.11

TSmears<MDALimits

<u>Unc</u>

3.46

4.70

AR # 6 + 88; RECOUNT DATA ON NEXT PAGE

Jamel J. a

Page 3 of 3

Print Date Print Time 7/18/2019 12:03:37PM

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {AB576EBF-516F

Batch ID:

TA-53 Samples - 201907181214

Group:

Device:

BC#:

Bldg:

S5XLBG Unit2

Batch Key:

7860

RP Tracking Number

29229856

Count Date:

7/18/2019 12:14:25PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate: Beta Rate:

Gamma Rate:

0.00 ± 1.80 ±

0.00 0.60

<u>Unc</u>

3.21

0.00

Alpha: 31.11 ± Beta: 44.44 ±

8.80

Efficiency (%)

8= 247.07 dpm

Sample ID

20190718121425-E6

155.20

<u>Alpha</u>

(dpm)

3.21

± 5.57

Alpha MDA (dpm) 8.70

Gamma:

<u>Beta</u> (dpm) 4.95

0.11

0.11

<u>Unc</u> 4.70 **Beta MDA** (dpm) 16.97

<u>Gamma</u> (dpm) -115.91

20190718121556-E38

0.00

8.70

0.45

3.46

16.97

65.91

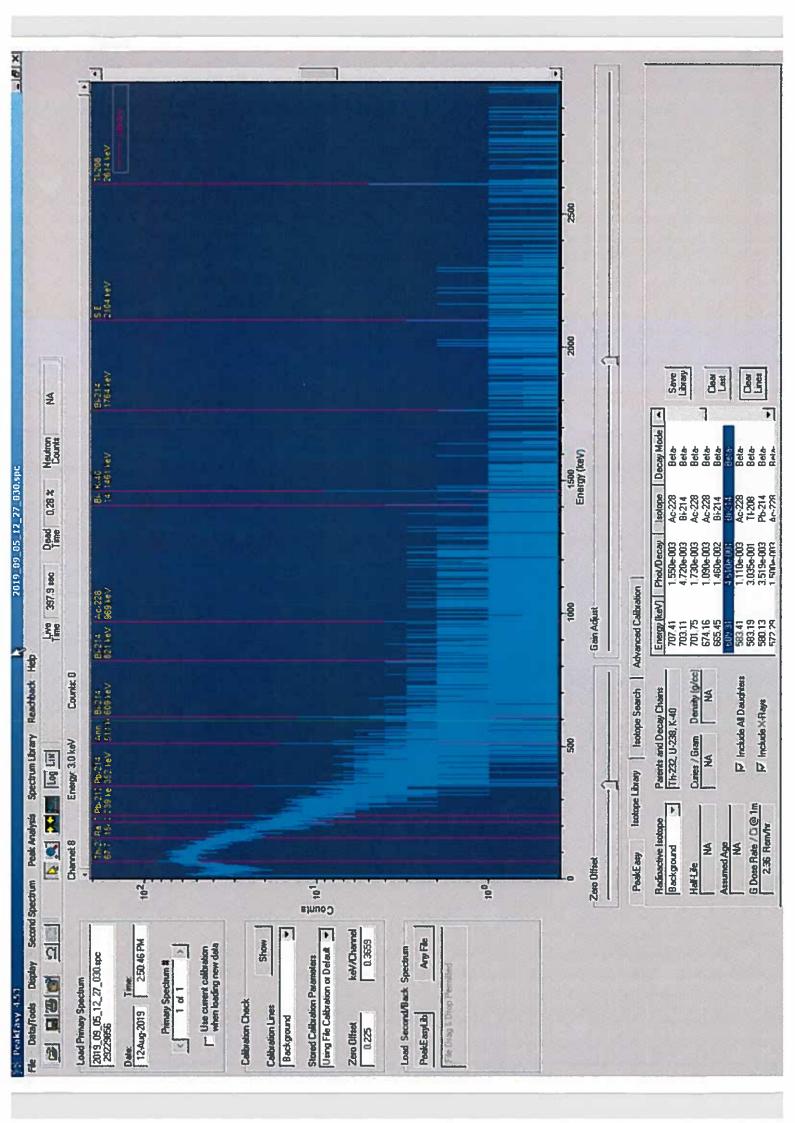
All Smears<MDALimits

James J. R. O.

Page 1 of 1

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {88A722FF-2B4C

Print Date Print Time 7/18/2019 12:17:11PM





Count time: 60 seconds Cal Due Date: ob.oT.19 15.028 Instrument PN: RIHI RadEye SX /Ludlum 44-3 Model:

Reference Readings

Chock Course	odojosj	#CI	Activity	60 Second Bkg	60 Second Bkg Grass Check Source Net Check Source	Net Check Source	Expected -20%	Expected +20%
CILECA COUNCES	adolosi	101	(dbm)	(cpm)	(cbm)	(cbm)	(cpmx0.8)	(cpmxl.2)
	5.90	K- 323	58·0 1 7	717	11200	- 1888 A	8739	13 loj
						05.24,49	7	
DateReference	Date Reference Readings Established: DS. 27. 19	65.29.19	RCT name: L SHARGEY	SHAPIEKY	Signature	Guar J. B.	Z-number:	Z-number 384582

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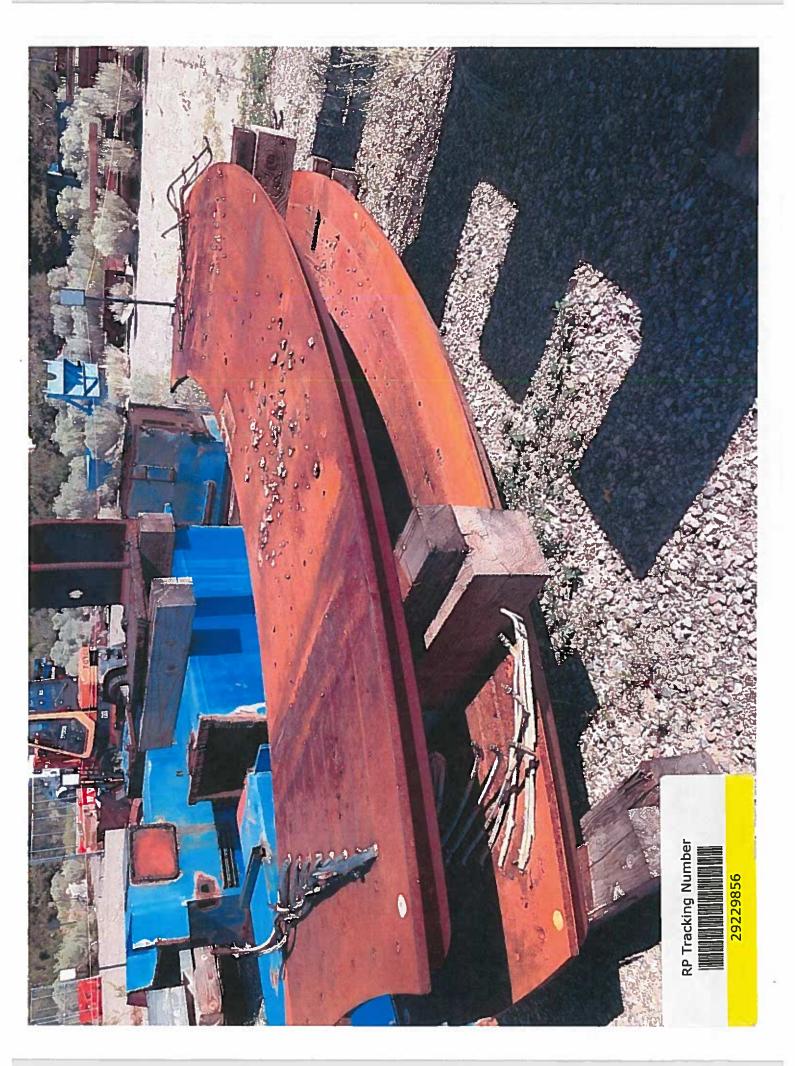
Background / Sample Count Time: ou seconds	Comments	NEW PAGE		METAL CLEARNINGE	9							METAL CLEABANGE		METAL CLERANCE	
Background	RCT Signature	Sour 1. 1 al De	Come DA BA	19. 10 M	1.2. 9. J. M. t.	Sound Dolland	A COUNTY	5.6 V 1/40	Land Juliane	(16 Combradaus	da la la Mak	L'am M. Well	L. Collect	LY DINGER	2
	RCT Name	L. SHARISKY	ר או אנופעל	רי שוישמיפכג	L. CHARSEY	L. SHARISKY	1 C. SHARIECY	L. SHARISKY	L. SHARISKY	A. LOVA - MUro >	L. SHARISKY	L. SHARISKY	L. SHARIBY	L. Shakezy	
	RCTZ Number	28,592	336582	33K-82	38ke82	334582	336582	334587	331582	29555R	334FB2	3347 82	336582	231582	
	Pass/ Fall	PAGE	94.55	PAGS	PASS	PAS	Phes	PASS	PASS	Pass	PASS	Phos	PASS	PA 565	
	Net Check Source (cpm)	17/1	hhall	10817	11138	11452	11737	11000	10960	10813	112415	N 045	10 889	१०५४म	
212	Gross Check Source (cpm)	11400	00811	00]]]	11400	11500	005 11) 1PL01	40111 401 1	11100	11200	11800	11 100	11 200	
221122	Background (cpm)	2.19	25v	283	212	248	2.43	25 oy	240	186	255	255	1012	2100	
	Date/Time	0121 61,92.30	06.05. 19 1200	04.10.19 effec	04.12.19 12.80	Do. 19.19 (250	O6.24.19 1245	04.25.19 (320	H310 P1-12	7/1/19 1415	51.11.19 1045	SH40 61.41. FO	021.19.1750	ට ව ව ව 	

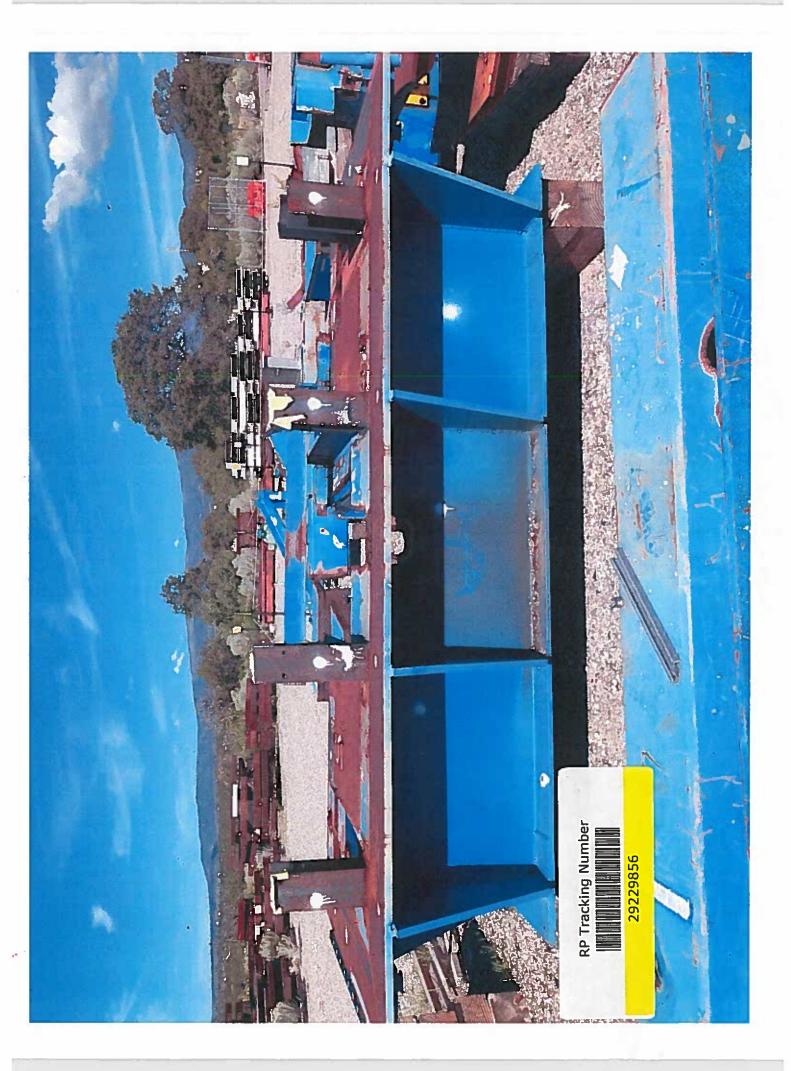
LOS Alamos NATIONAL LABORATORY

BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG

Cal. Due Date: \$1/08/20 Location: TA-53, MPF-3R, Rm. 141 HSE# (P/N): 007 485 ESP-1 Model: Eberline Instrument Manufacture:

MONTH! METH CLEARANCE CLEMEANCE METAL CLEARANCE METAL CLEARANCE METAL CLEARABLE METAL CLEARANCE METAL CLEADWICE CLENRANCE METAL CLEARANCE METAL CLENRANCE D38-00 127-4 Comments # 20%:72 No 10824dpm METAL METAL Check Source 2.6uci A STATE OF Reference: 4020 of Mit Brango Isotope: :# □ Activity:_ Printed Name/Signature Z Number Z Number LAWREL SHARLARY L. SHARISKY L-SHARBEY L. SHARLSKY L SHARISKY L. SHARIGET L-SIMRISEY L. SHARIGKY L-SHARISKY L. SHARISKY L. Shaaleky L-SHREIGHOT N/A X V Pass/Fail PASS PAGS PA SS PASS PASS PASS **PA65** PASS PASS PAGS 8 TASS ¥ N × Check Source Reading Sigrature 8757 9000 2048 9507 8362 6663 9349 8570 9517 8440 8910 8619 Net Reference Reading Scafe 4 N/A Υ V S ۸ ۲ 4/2 W/W M/A **₹**2 タング ¥\¥ 4 12 4 2 かい Acceptance Range (± 20%) 892 dpm/ 1332dpm Net Reference Reading Scale 3 Open Scale dpm mdp LAUREL 3 SHARISKY RCT Name 4/2 4/2 さに 4/2 4/2 きュ ٧ ۲ Ę. くい 47 ₹ 2 472 1115 03 Net Reference Reading Scale 2 Filter Position or Range: Reference Reading: Net Reading: **₹**2 きて 4/2 ₹\2 42 ٨/٧ 4 q V 4/2 4 され NA Net Reference Reading Scale 1 Date Reference Readings Established 1149 1137 1085 1043 1080 1237 1199 विदि 1139 1168 1147 1160 Background Reference Source Bkg: 415 dpm (200-300 icle 1) 173 Activity: 40.83uci 25 195 200 157 7 200 2 73 19.7 151 7 Sr³⁰ ogsturia/0935 02 MAY/1300 OBHAYIM/082D HMM 17 /000 080 DE MACHET/OUTE 074C 0000 IS MM PA /OBOD /0045 800 sotope: Date/Time / PIMMAI 22MAIR / MANA BJUL 19 6174790 PITAC







Date/Time:	Item Barcode Numbers
07.23.19 / 0830	
Photo File Name:	29229857

Item Description, including any process and historical knowledge

I Blue Housing Component: 32.5"x30"x36"

II Blue Housing Component: 45"x30"x35"

III Blue Column

IV Blue Housing Component: 33.5"x25"x24" V Blue Housing Component: 66"x20"x40 VI Blue Housing Component: 35"x23"x33"

Evaluation

Survey	Below release criterion? (Y/N)	Releasable? (Y/N)
Direct Beta	Υ	Υ
Smear	Υ	Υ
Direct Gamma	Υ	Υ

Comments

Items survey were not directly in the beam path.

Item VI: Blue Housing Component: 35"x23"x33" was surveyed on 07.25.19 due to rain water collecting on the component; survey was conducted once rain water had evaporated. Second Background data was collected; background data is separated (/) where the left hand data corresponds to the 23rd and the right hand data corresponds to the 25th.

L. Sharisky	Some I all	336582	09.11.19
RCT Name	Signature	Z-Number	Date
A. Loya-Munóz	(Wesanora Lava-Mung	295558	09-11-19
RCT Name	Signature	Z-Number	Date
M. Duran	-une Dur-	106440	9/11/19
HPFC Reviewer	Signature	Z-Number	Date

21

Item Release Survey—Direct Beta and Gamma Survey

Date:07.23.19	Time: 0830	No. samples: 52
TA: 53	Building: Spoils Lot	Room: Spoils Lot
L. Sharisky	Lound S. D.	336582
RCT Name	Signature) / Z Number
A. Loya-Munoz	Alyanda Loya-	295558 Z Number

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7488	7488	01.20.20	165/159	30%	119.05/117.05

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15028	15028	08.09.19	83/82.4	122/121

M44-3 Background Results

Number	Gamma at ½ inch (cpm)			
1	95/97			
2	85/75			
3	75/76			
4	82/75			
5	78/89			
Average	83/82.4			

Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	Blue Housing Component I: Top	187	Y [1-2]	77	Y
2	Blue Housing Component I: Bottom	155	Y [3]	101	Υ
3	Blue Housing Component I: South Facing Side	162	Y [4]	77	Υ
4	Blue Housing Component I: Inside	178	Y [5-6]	65	Υ
5	Blue Housing Component II: Top	230	Y [7]	69	Y
6	Blue Housing Component II: Bottom	183	Y[8]	89	Υ
7	Blue Housing Component II: North Facing Side	127	Y [9]	67	Υ
8	Blue Housing Component II: Inside	200	Y [10-11]	43	Υ
9	Blue Column III: Top	177	Y [12-13]	79	Υ
10	Blue Column III: Bottom	155	Y [14-15]	92	Υ
11	Blue Column III: East Facing Side	209	Y [16-17]	73	Υ

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
12	Blue Column III: West Facing Side	156	Y [18-19]	88	Υ
13	Blue Column III: Inside	204	Y [20-21]	52	Υ
14	Blue Housing Component IV: Top	192	Y [22]	71	Υ
15	Blue Housing Component IV: Bottom	173	Y [23]	56	Υ
16	Blue Housing Component IV: North Facing Side	141	Y [24]	72	Y
17	Blue Housing Component IV: Inside	179	Y [25-26]	42	Y
18	Blue Housing Component V: Top	210	Y [27-28]	64	Y
19	Blue Housing Component V: Bottom	204	Y [29-30]	98	Υ
20	Blue Housing Component V: North Facing Side	183	Y [31-32]	50	Y
21	Blue Housing Component V: East Facing Side	215	Y [33-34]	57	Y
22	Blue Housing Component V: West Facing Side	211	Y [35-36]	67	Υ
23	Blue Housing Component V: Inside	209	Y [37-40]	44	Y
	BEGIN USING DATA FOR 07.25.19				
24	Blue Housing Component VI: South Facing Side	192	Y [41-42]	71	Y
25	Blue Housing Component VI: East Facing Side	197	Y [43]	66	Y
26	Blue Housing Component VI: North Facing Side	186	Y [44-45]	54	Υ
27	Blue Housing Component VI: Top Inside	196	Y [46-49]	54	Υ
- 28	Blue Housing Component VI: Bottom Inside	170	Y [50-51]	30	Υ
29	Blue Housing Component VI: Bottom	210	Y [52]	64	Υ
N/A	END OF SURVEY	N/A	N/A	N/A	N/A
T	T	T	T	T	T
		101			
					-
		1.			
L					
N/A	N/A	N/A	N/A	N/A	N/A

Batch ID:

TA-53 Samples - 201907231231

Group:

Device:

S5XLBG Unit2

Batch Key:

7905

BC#:

29229857

Bldg:

RP Tracking Number

29229857

Count Date:

7/23/2019 12:31:50PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate: Beta Rate:

Gamma Rate:

1.80

 0.00 ± 0.00 ± 0.60

 155.20 ± 5.57

Alpha: Beta:

31.11 ± 0.11 44.44 ± 0.11

8.80 Gamma:

Efficiency (%)

8 = 243.04 dpm

Sample ID	<u>Alpha</u> (dpm)	<u>Unc</u>	Alpha MDA (dpm)	<u>Beta</u> (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
0190723123150-E1	3.21	3.21	8.70	2.70	4.12	16.97	145.45
20190723123451-E2	3.21	3.21	8.70	-4.05	1.35	16.97	54.55
20190723123601-E3	0.00	0.00	8.70	-1.80	2.62	16.97	-25.00
0190723123711-E4	0.00	0.00	8.70	2.70	4.12	16.97	43.18
20190723123831-E5	0.00	0.00	8.70	2.70	4.12	16.97	65.91
20190723123941-E6	0.00	00 0.00 8.70 - 21 3.21 8.70		-1.80	2.62	16.97	-93.18
20190723124051-E7	3.21	3.21	8.70	0.45	3.46	16.97	-70.45
20190723124201-E8	0.00	0.00	8.70	-4.05	1.35	16.97	20.45
0190723124321-E9	24321-E9 3.21 3		8.70	0.45	3.46	16.97	-172.73
20190723124431-E10	0.00	0.00	8.70	-4.05	1.35	16.97	-81.82
0190723124541-E11	0.00	0.00	8.70	-4.05	1.35	16.97	156.82
20190723124651-E12	0.00	0.00	8.70	4.95	4.70	16.97	-127.27
20190723124802-E13	0.00	0.00	8.70	-4.05	1.35	16.97	-161.36
0190723124922-E14	0.00	0.00	8.70	-1.80	2.62	16.97	31.82
0190723125032-E15	0.00	0.00	8.70	9.45	5.67	16.97	168.18
20190723125142-E16	0.00	0.00	8.70	-1.80	2.62	16.97	-172.73
0190723125252-E17	0.00	0.00	8.70	-1.80	2.62	16.97	213.64
 0190723125412-E18	0.00	0.00	8.70	0,45	3.46	16.97	-47.73

Batch ID:

TA-53 Samples - 201907231231

Group:

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Device:

S5XLBG Unit2

Batch Key:

7905

BC#:

29229857

Bldg:

RP Tracking Number

29229857

Count Date:

7/23/2019 12:31:50PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate: Beta Rate:

Gamma Rate:

0.00 ± 0.00 ± 0.60 1.80 155.20 ± 5.57 Efficiency (%)

Alpha: Beta: Gamma: 31.11 ± 0.11 44.44 ± 0.11

8.80

V = 243.04 dpm

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)	
20190723125522-E19	0.00	0.00	8.70	-1.80	2.62	16.97	-59.09	
0190723125632-E20	0.00	0.00	8.70	0.45	3.46	16.97	304.55	
0190723125742-E21	0.00	0.00	8.70	2.70	4.12	16.97	-195.45	
0190723125902-E22	0.00	0.00	8.70	4.95 4.70 16.		16.97	134.09	
0190723130012-E23	0.00	0.00	8.70	7.20	5.21	16.97	100.00	
0190723130122-E24	3.21	3.21	8.70 11.70 6.10 16.97		16.97	134.09		
0190723130232-E25	0.00	0.00	8.70	2.70	4.12	16.97	88.64	
0190723130342-E26	0.00	0.00	8.70	2.70	4.12	16.97	9.09	
0190723130502-E27	3.21	3.21	8.70	0.45	3.46	16.97	281.82 —	
0190723130612-E28	3.21	3.21	8.70	4.95	4.70	16.97	-13.64	
0190723130722-E29	0.00	0,00	8.70	-1.80 2.62 1			315.91 -	
0190723130833-E30	0.00	0.00	8.70	-4.05	1.35	16.97	179.55	
0190723130953-E31	3.21	3.21	8.70	13.95	6.51	16.97	122.73	
0190723131103-E32	0.00	0.00	8.70	0.45	3.46	16.97	65.91	
0190723131213-E33	0.00	0.00	8.70	-1.80	2.62	16.97	202.27	
0190723131323-E34	0.00	0.00	8.70	4.95	4.70	16.97	111.36	
0190723131433-E35	0.00	0.00	8.70	2.70	4.12	16.97	65.91	
0190723131553-E36	0.00	0.00	0.00 8.70 -1.80		2.62	16.97	-70.45	
0190723131703-E37	0.00	0.00	8.70	-1.80	2.62	16.97	54.55	
0190723131813-E38	0.00	0.00	8.70	2.70	4.12	16.97	77.27	

Batch ID:

TA-53 Samples - 201907231231

Group:

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Device:

S5XLBG Unit2

Batch Key:

7905

BC#:

Bldg:

29229857

29229857

RP Tracking Number

Count Date:

7/23/2019 12:31:50PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate:

0.00

± 0.00 1.80 0.60 ±

Alpha: Beta:

31.11 ± 0.11 0.11

44.44 ±

V = 243.04 dpm

Gamma Rate:

Beta Rate:

155.20

5.57

Gamma:

8.80

Efficiency (%)

Beta MDA Gamma

20190723131923-E39

Sample ID

<u>Alpha</u> (dpm) 0.00

<u>Unc</u> 0.00 Alpha MDA (dpm) 8.70

Beta (dpm) -1.80

<u>Unc</u> 2.62

(dpm) 16.97

(dpm) 77.27

20190723132043-E40

0.00 0.00 8.70

2.70

4.12

16.97

156.82

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on the NEXT PAGE; SMEARS # 20, 27, 29; RECOUNTED ON THE NEXT PAGE; SMEARS RECOUNTED DUE TO ELBURTED & COUNTS

Page 3 of 3

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Print Date

7/23/2019

Print Time

1:21:59PM

Batch ID:

TA-53 Samples - 201907231331

Group:

BC#:

Bldg:

Device:

S5XLBG Unit2

Batch Key:

7906

RP Tracking Number

Count Date:

7/23/2019 1:31:49PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

 0.00 ± 0.00

Alpha:

31.11 ± 0.11

0.11

44.44 ±

Efficiency (%)

7 = 243.04dpm

Beta Rate: Gamma Rate:

Alpha Rate:

1.80 155.20

± 0.60 5.57 ±

Beta: Gamma:

8.80

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190723133149-E20	0.00	0.00	8.70	-1.80	2.62	16.97	213.64
20190723133319-E27	0.00	0.00	8.70	11.70	6.10	16.97	-2.27
20190723133429-E29	0.00	0.00	8.70	0.45	3.46	16.97	-2.27

All Smears<MDALimits

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Page 1 of 1

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Print Date **Print Time** 7/23/2019 1:35:45PM

Batch ID:

TA-53 Samples - 201907251042

Group:

Е

Device:

Bldg:

S5XLBG Unit2

Batch Key:

7923

BC#:

29229857

RP Tracking Number

29229857

Count Date:

7/25/2019 10:42:47AM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

2.62

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate: Beta Rate:

!0190725104928-E45

0.00 ± 0.00 1.80 0.60 Alpha:

31.11 ±

0.11 44.44 ± 0.11

07-28-19

240.57 dpm

-172.73

16.97

Gamma Rate:

155.20 ±

0.00

Beta: 5.57

0.00

Gamma:

8.80

-1.80

Sample ID	Alpha	Unc	Alpha MDA	Beta	<u>Unc</u>	Beta MDA	Gamma
	(dpm)		<u>(dpm)</u>	(dpm)		<u>(dpm)</u>	<u>(dpm)</u>
!0190725104247-E41	3.21	3.21	8.70	7.20	5.21	16.97	247.73—
!0190725104547-E42	3.21	3.21	8.70	2.70	4.12	16.97	-59.09
!0190725104657-E43	3.21	3.21	8.70	2.70	4.12	16.97	-70.45
!0190725104807-E44	0.00	0.00	8.70	0.45	3.46	16.97	-218.18

:0190725105038-E46	0.00	0.00	8.70	2.70	4.12	16.97	20.45
!0190725105148-E47	0.00	0.00	8.70	-1.80	2.62	16.97	43.18
:0190725105258-E48	0.00	0.00	8.70	-1.80	2.62	16.97	-13.64

8.70

!0190725105418-E49	0.00	0.00	8.70	-1.80	2.62	16.97	259.09
10190725105528-E50	0.00	0.00	8.70	2.70	4.12	16.97	134.09
!0190725105638-E51	0.00	0.00	8.70	-4.05	1.35	16.97	9.09
!0190725105748-E52	0.00	0.00	8.70	0.45	3.46	16.97	259.09

Smears<MDALimits

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EXCEPT SMEAR # 41. 49, 52; RECOUNT DATA ON NEXT PAGE; SMEARS RECOUNTE DUE TO ELEVATED T

Reviewed by;

Page 1 of 1

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Print Date

7/25/2019

Print Time

10.59.03AM

Batch ID:

TA-53 Samples - 201907251109

Group:

E

Device:

BC#:

Bldg:

S5XLBG Unit2

Batch Key:

7924

RP Tracking Number

29229857

Count Date:

7/25/2019 11:09:14AM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate: Beta Rate:

Gamma Rate:

0.00 1.80

155.20

± 0.00 ± 0.60 ± 5.57

Alpha: Beta:

Gamma:

31.11 ± 0.11 44.44 ± 0.11

8.80

Efficiency (%)

8 = 240 .57 dpm

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	<u>Beta</u> (dpm)	<u>Unc</u>	Beta MDA (dpm)	<u>Gamma</u> (dpm)
!0190725110914-E41	0.00	0.00	8.70	0.45	3.46	16.97	-59.09
!0190725111045-E49	3.21	3.21	8.70	0.45	3.46	16.97	-172.73
!0190725111155-E52	0.00	0.00	8.70	7.20	5.21	16.97	-2.27

All Smears<MDALimits

James of L

Reviewed by:

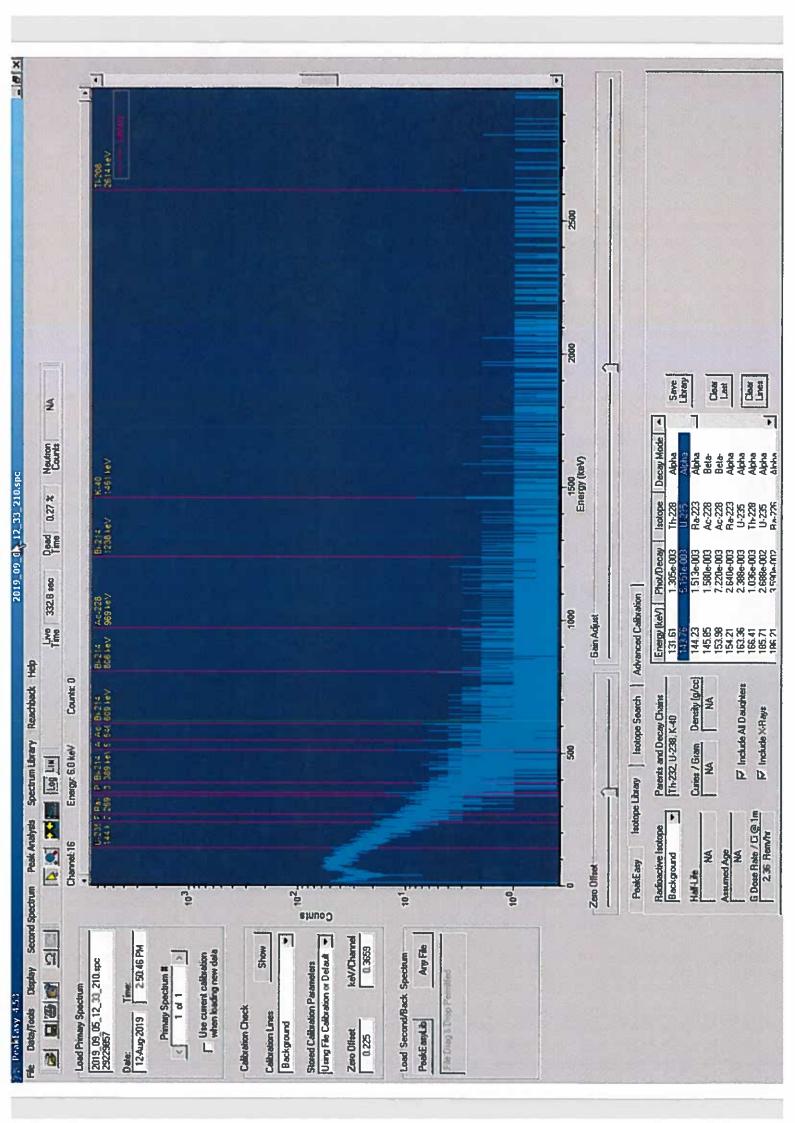
Page 1 of 1

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Print Date

7/25/2019

Print Time 11:13:10AM



Los Alamos

BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG

Cal. Due Date: ©1/08/20 Location: TA-53, MPF-3R, Rm. 141 HSE# (P/N): 001488 Model: ESP-1 Eberline Instrument Manufacture:

D38-00 WILK 2536 ±20%:721/0 10 105:24dpm Check Source 2.6µci D-38 Reference: 4020 ID #: Activity:__ |sotope:_ Z Number Z Number N/A N A 4 ΝX Ϋ́ Signature ന ΥX N/A Ø Acceptance Range (± 20%) R92 dpm/ 1332dpm Open Scale dpm dpm LAUREL J SHARISK **RCT Name** 1310 115 Filter Position or Range: Reference Reading: Net Reading: Date Reference Readings Established Reference Source Bkg: १९5 dpm (२००-३०० तिब्स) Activity: 40.8311ci K-323 Sr₉₀ |sotope:_

		2	rΥ	_	_		-	-		_	_				_	
	Comments	METH. CLEADANCE /MARTIN		WETAL CERMON	METAL CLEARANCE	METAL CLENRADICE		METAL CLEAPEANCE		METAL CIERONALE		METAL CLEARANCE	METAL CLEARANCE	WARTE CAMOROF		
	Printed Name/Signature	to Nauffel	O'SUMPLES.	Down of the	Of Mak	of contract	de la	De se la	So Self	Ser So	Se se	1 of 1865	18/18/	1000 / 16/	8, ,	Ado
	Printed Na	LANKEL GHABÁCY	L. SHARISKY	L-SHARISKY	T-SHREWOOT	L-SIMRISET	L.SHARKKY	L. SHRAIRKY	L. SHARISKY	L. SHARISKY	L SHARISKY	L. Syrriger	L. SHARISKY	1. SHPRIKY		Ŭ
}	Pass/Fail	PASS	PAGS	PASS	PASE	PASS	PASS	\$ \$ \$ \$ \$	88.89	PASE	PAGS	PASS	PASS	PAGS		
	Check Source Reading	9000	7068	8757	8362	8663	8440	8910	8570	8619	9486		9507	80 21		
	Net Reference Reading Scale 4	N/A	N/A	w/w	N/A	N/A	N/A	W/W	N/A	₹/2	\$ 2	2/4	4/2	N/A		
	Net Reference Reading Scale 3	4/4	13/04	4/2	N/a	4/11	٨/٧	Ę	4/51	2/2	W/19	4/2	4/7	N/A		
	Net Reference Reading Scale 2	NA	N/A	N/A	4/2	NA	N/A	11/0	N/8	N/A	2/12	N/A	10/A	4/2		
	Net Reference Reading Scale 1	1149	1085	N-87	1043	1168	1160	معااا	1080	1199	1139	[147	1137	98 11	*	
750	Background	211	195	213	157	197	(10	200	200	151	211	113	179	1,81		
	Date/Time	02 MAY/1300	PIPO/BHYMY DO	OBMAYIR/082D	HARTIN /0000	SHAMPA JOEGO	The Minting / 0800	22MAIN / 0740	0071 / birveso		ogjuria/oggs	Cours /	#30419/0810	18 June / 0800		-

RadEye SX/L44-3 Performance Test Log

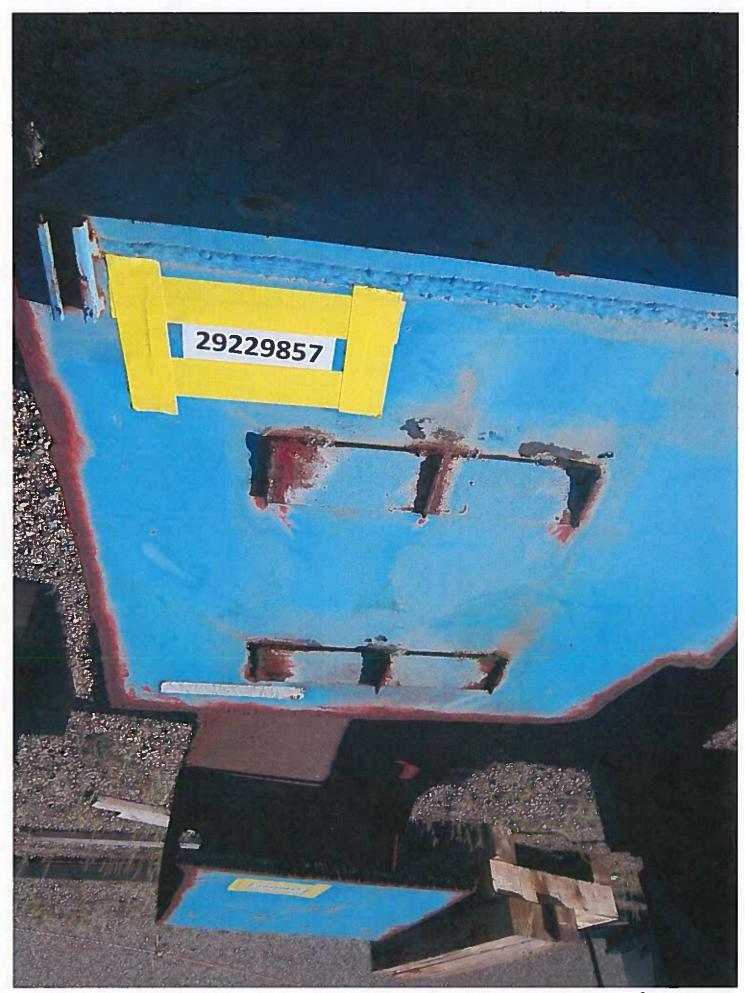
Count time: 60 seconds Cal Due Date: 08.09.19 Instrument PN: 15028 RIHI RadEye SX /Ludlum 44-3 Model:

Reference Readings

			Artivity	מום ביייים טעט	Contract of the contract of th	Mary Charles Control	Evanotion 2004	Taboto Table
Chark Sources	lentona	#11	(Hereally)	המ מברחות מעל	on Second and Joines Check Source Met Check Source	Net Check Source	CAPECIEU -20 /0	באלוברובת בסים
Concern Concern	-	= 2	(dbm)	(cbm)	(cbm)	(cbm)	(cpmx0.8)	(cpmxl.2)
	Sr 90	K-323	40.83	255	11600	11 145	8916	75 81
DateReference	ا عبيد 23 مبد العادة Established: 23 مبد الع	23 Jul 19	RCT name: L. SHARISKY	SHARISKY	Signature	Count of A	W. K-number 386582	245925

Performance Test Results

remonnance rest Results	מן עני	2112					Background	Background / Sample Count Time: 60 seconds
Date/Time Back	Background (cpm)	Gross Check Net Check Source Source (cpm) (cpm)	Net Check Source (cpm)	Pass/ Fall	RCTZ Number	RCT Name	RCT Signature	Comments
57.23.19 /0800 29	157	11100	1 :	PASS	39165 BZ	L.SHREED?	& JUNE	METALETERANICE



BC# 29229857



BC # 29229857



8c # 29229857



8c# 29229857



Date/Time:				Item Barcode	Numbers
08.13.19/ 0900)				
Photo File Nam	e:			29229	862
Item Descripti	on, including any process and	historical kn	owledge		W
I Blue Housing	Component				
II Blue Housing	Component				
III Blue Housing	Component				
IV Blue Housing	Component				
V Blue Housing	Component				
Evaluation					
Survey	Below release criterion? (Y/N)	Releasable?	Y/N)		
Direct Beta	Y	Y			
Smear	Y	Y			
Direct Gamma	Υ	Y			
Comments					
Items were not	directly in the beam path				
:					
	\mathcal{L}	Al			
L. Sha		ignature		336582 Z-Number	09.11.19 Date
ACI I		I M	_	2-Number	Date
A. Loya		KU19-1401	10)	295558	09-11-19
RCT N	iame V S	ng ņ atūre	1	Z-Number	Date
M. D	-	Dun		106440	9/11/19
HPFC Re	eviewer S	ignature		Z-Number	Date

Item Release Survey—Direct Beta and Gamma Survey

Date: 08.13.19	Time: 0900	No. samples: 54
TA: 53	Building: Spoils Lot	Room: Spoils Lot
L. Sharisky	Laurel I M	336582
RCT Name	Signature	Z Number
A. Loya-Munoz	(Meinheradousa-)	Mengs 295558
RCT Name	Signature	Z Number

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7488	7488	01.20.20	157	30%	116.38

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15031	15031	02.06.20	92.6	135

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	92
2	89
3	76
4	101
5	105
Average	92.6

RP Tracking Number



29229862

Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	I Blue Housing Component: Top	189	Y [1-3]	67	Υ
2	l Blue Housing Component: Bottom	151	Y [4-6]	89	Υ
3	I Blue Housing Component: South Facing Side	183	Y [7]	71	Υ
4	I Blue Housing Component: East Facing Side	196	Y [8-9]	66	Υ
5	I Blue Housing Component: West Facing Side	214	Y [10-11]	73	Y
6	II Blue Housing Component: Top	200	Y [12-14]	66	Y
7	II Blue Housing Component: Bottom	154	Y [15-17]	63	Y
8	II Blue Housing Component: South Facing Side	197	Y (18)	80	Y
9	II Blue Housing Component: East Facing Side	197	Y [19-20]	76	Υ
10	II Blue Housing Component: West Facing Side	154	Y [21-22]	74	Υ
- 11	III Blue Housing Component: Top	225	Y [23-25]	73	Υ

Survey Area	item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
12	III Blue Housing Component: Bottom	163	Y [26-28]	79	Y
13	III Blue Housing Component: East Facing Side	185	Y [29-30]	67	Υ
14	III Blue Housing Component: West Facing Side	203	Y [31-32]	67	Y
15	IV Blue Housing Component: Top	202	Y (33-34)	85	Y
16	IV Blue Housing Component: Bottom	196	Y [35-36]	94	Υ
17	IV Blue Housing Component: East Facing Side	196	Y [37-38]	96	Y
18	IV Blue Housing Component: West Facing Side	213	Y [39-40]	62	٧
19	IV Blue Housing Component: Inside	197	Y [41]	96	Υ
20	V Blue Housing Component: Top	207	Y [42-43]	75	Υ
21	V Blue Housing Component: Bottom	191	Y [44-45]	71	Y
22	V Blue Housing Component: North Facing Side	197	Y [46]	33	Υ
23	V Blue Housing Component: South Facing Side	198	Y [47]	40	Y
24	V Blue Housing Component: East Facing Side	196	Y [48-49]	60	Υ
25	V Blue Housing Component: West Facing Side	165	Y [50-53]	53	Υ
26	V Blue Housing Component: Inside	185	Y [54]	57	Υ
N/A	END OF SURVEY	N/A	N/A	N/A	N/A
T	T	T	T	T	Ī
	RP Tracking Number 29229862				181
				27.	*
					8.
Ţ	L		1		
N/A	N/A	N/A	N/A	N/A	N/A

Batch ID: TA-53 Samples - 201908131400

Group: E

Device: S5XLBG Unit2

Batch Key: 8119

BC#: 29229862

Bldg:

Count Date: 8/13/2019 2:00:36PM

Count Minutes: 1.

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate: Beta Rate:

Gamma Rate:

0.00 ± 0.00 1.80 ± 0.60 155.20 ± 5.57 Alpha: Beta:

RP Tracking Number

29229862

31.11 ± 0.11 44.44 ± 0.11

Gamma: 8.80

~= 240.18 dpm

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	<u>Beta</u> (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190813140036-E1	6.43	4.55	8.70	0.45	3.46	16.97	213.64
20190813140207-E2	3.21	3.21	8.70	4.95	4.70	16.97	-47.73
20190813140317-E3	3.21	3.21	8.70	0.45	3.46	16.97	-104.55
0190813140427-E4	3.21	3.21	8.70	0.45	3.46	16.97	31.82
20190813140547-E5	0.00	0.00	8.70	-1.80	2.62	16.97	168.18
20190813140657-E6	0.00	0.00	8.70	-4.05	1.35	16.97	179.55
20190813140807-E7	0.00	0.00	8.70	2.70	4.12	16.97	31.82
20190813140917-E8	0.00	0.00	8.70	-1.80	2.62	16.97	-2.27
20190813141037-E9	0.00	0.00	8.70	2.70	4.12	16.97	65.91
20190813141147-E10	0.00	0.00	8.70	2.70	4.12	16.97	-195.45
20190813141257-E11	0.00	0.00	8.70	2.70	4.12	16.97	-47.73
20190813141408-E12	0.00	0.00	8.70	-1.80	2.62	16.97	111.36
20190813141517-E13	0.00	0.00	8.70	2.70	4.12	16.97	77.27
20190813141638-E14	0.00	0.00	8.70	7.20	5.21	16.97	54.55
20190813141748-E15	0.00	0.00	8.70	4.95	4.70	16.97	31.82
20190813141858-E16	0.00	0.00	8.70	-4.05	1.35	16.97	338.64
0190813142008-E17	0.00	0.00	8.70	0.45	3.46	16.97	-36.36
20190813142128-E18	0.00	0.00	8.70	-1.80	2.62	16.97	-13.64

Batch ID:

TA-53 Samples - 201908131400

Group:

Ε

Device:

S5XLBG Unit2

Batch Key:

8119

BC#:

29229862

Bldg:

RP Tracking Number

29229862

Count Date:

8/13/2019 2:00:36PM

Count Minutes:

1.00

Simultaneous

Count Mode:

1335

Operating Volts: Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate: Beta Rate:

Gamma Rate:

0.00

± 0.00

1.80

± 0.60 155.20 ± 5.57

Alpha: Beta:

Gamma:

31.11 ±

0.11

0.11

44.44 ± 8.80

Efficiency (%)

T= 240.18 dpm

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	Unc ®	Beta MDA (dpm)	Gamma (dpm)
20190813142238-E19	0.00	0.00	8.70	-1.80	2.62	16.97	65.91
20190813142348-E20	0.00	0.00	8.70	0.45	3.46	16.97	-2.27
20190813142458-E21	0.00	0.00	8.70	-4.05	1.35	16.97	179.55
20190813142608-E22	0.00	0.00	8.70	0.45	3.46	16.97	111.36
20190813142728-E23	3.21	3.21	8.70	4.95	4.70	16.97	-2.27
20190813142838-E24	3.21	3.21	8.70	0.45	3.46	16.97	65.91
20190813142948-E25	3.21	3.21	8.70	9.45	5.67	16.97	31.82
20190813143058-E26	0.00	0.00	8.70	-1.80	2.62	16.97	31.82
20190813143218-E27	3.21	3.21	8.70	-1.80	2.62	16.97	-104.55
20190813143329-E28	0.00	0.00	8.70	0.45	3.46	16.97	-252.27
20190813143438-E29	0.00	0.00	8.70	-4.05	1.35	16.97	304.55
20190813143548-E30	0.00	0.00	8.70	-4.05	1.35	16.97	134.09
20190813143709-E31	0.00	0.00	8.70	0.45	3.46	16.97	65.91
20190813143819-E32	0.00	0.00	8.70	-1.80	2.62	16.97	145.45
20190813143929-E33	0.00	0.00	8.70	9.45	5.67	16.97	31.82
20190813144039-E34	0.00	0.00	8.70	7.20	5.21	16.97	-206.82
20190813144149-E35	0.00	0.00	8.70	4.95	4.70	16.97	134.09
20190813144309-E36	0.00	0.00	8.70	2.70	4.12	16.97	77.27
20190813144419-E37	0.00	0.00	8.70	-4.05	1.35	16.97	77.27
20190813144529-E38	0.00	0.00	8.70	-4.05	1.35	16.97	134.09

Batch ID:

TA-53 Samples - 201908131400

Group:

Ε

Device:

Bldg:

S5XLBG Unit2

Batch Key:

8119

29229862

BC#:

RP Tracking Number

29229862

Count Date:

8/13/2019 2:00:36PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate: Beta Rate:

Gamma Rate:

0.00 1.80

155.20

± 0.00 ±

0.60

5.57

Alpha:

Efficiency (%) 31.11 ±

Beta:

0.11 44.44 ± 0.11

Gamma: 8.80 N= 240.18 dpm

Sample ID	<u>Alpha</u> (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
0190813144639-E39	0.00	0.00	8.70	-1.80	2.62	16.97	-172.73
0190813144759-E40	0.00	0.00	8.70	-1.80	2.62	16.97	-138.64
0190813144909-E41	0.00	0.00	8.70	2.70	4.12	16.97	-13.64
0190813145019-E42	0.00	0.00	8.70	0,45	3.46	16.97	247.73
0190813145129-E43	0.00	0.00	8.70	2.70	4.12	16.97	-36.36
0190813145240-E44	3.21	3.21	8.70	0.45	3.46	16.97	202.27
0190813145359-E45	0.00	0.00	8.70	2.70	4.12	16.97	77.27
0190813145509-E46	0.00	0.00	8.70	-4.05	1.35	16.97	452.27
0190813145620-E47	0.00	0.00	8.70	0.45	3.46	16.97	-59.09
0190813145730-E48	6.43	4.55	8.70	0.45	3.46	16.97	190.91
0190813145850-E49 alpha exceeds mda	12.86	6.43	8.70	-1.80	2.62	16.97	134.09
0190813150000-E50	0.00	0.00	8.70	-1.80	2.62	16.97	20.45
0190813150110-E51	0.00	0.00	8.70	2.70	4.12	16.97	-59.09
0190813150220-E52	0.00	0.00	8.70	2.70	4.12	16.97	225.00
0190813150340-E53	0.00	0.00	8.70	0.45	3.46	16.97	9.09
0190813150450-E54	0.00	0.00	8.70	-1.80	2.62	16.97	-81.82

Reviewed by:

Page 3 of 3

Print Date

RECOUNT DATA ON NEXT PAGE SMEARS RECOUNTS

> MDA (~ + or)

8/13/2019

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {9AC11CE9-A54}

Print Time

3:06 07PM

Batch ID:

TA-53 Samples - 201908131558

Group:

Device:

BC#:

Bldg:

S5XLBG Unit2

Batch Key:

8122

RP Tracking Number

29229862

Count Date:

8/13/2019 3:58:03PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate: Beta Rate:

Gamma Rate:

0.00 1.80 ± 0.60 155.20 5.57

Alpha: Beta:

Gamma:

31.11 ± 0.11 44.44 ± 0.11

8.80

2 = 240.18 dan

Sample ID	<u>Alpha</u> (dpm)	<u>Unc</u>	Alpha MDA (dpm)	<u>Beta</u> (dpm)	<u>Unc</u>	Beta MDA (dpm)	<u>Gamma</u> (dpm)
20190813155803-E16	0.00	0.00	8.70	2.70	4.12	16.97	-25.00
20190813155934-E29	0.00	0.00	8.70	-1.80	2.62	16.97	-2.27
20190813160044-E42	0.00	0.00	8.70	-1.80	2.62	16.97	-297.73
20190813160154-E46	0.00	0.00	8.70	0.45	3.46	16.97	361.36
20190813160314-E49	0.00	0.00	8.70	-1.80	2.62	16.97	202.27

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Reviewed by:

Page 1 of 1

8/13/2019

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {680E2E6E-32CI

Print Date **Print Time**

4:04:30PM

Batch ID:

TA-53 Samples - 201908131612

Count Date:

8/13/2019 4:12:42PM

Group:

Count Minutes:

1.00

Device:

Count Mode:

Simultaneous

Batch Key:

8123

Operating Volts:

1335

S5XLBG Unit2

BC#: Bldg:

Gamma Volts:

828

BC# 29229862

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate:

0.00 ± 0.00 1.80 ± 0.60 Alpha: Beta:

31.11 ± 0.11 44.44 ± 0.11

8 = 240.18 dpm

Beta Rate: Gamma Rate:

155.20

5.57 ±

Gamma:

Alpha MDA

8.80

Beta MDA

Gamma

20190813161242-E46

Sample ID

<u>Alpha</u> (dpm) 0.00

<u>Unc</u> 0.00

(dpm) 8.70

<u>Beta</u> (dpm) -4.05

<u>Unc</u> 1.35

(dpm) 16.97 (dpm) -36.36

All Smears<MDALimits

Reviewed by

Page 1 of 1

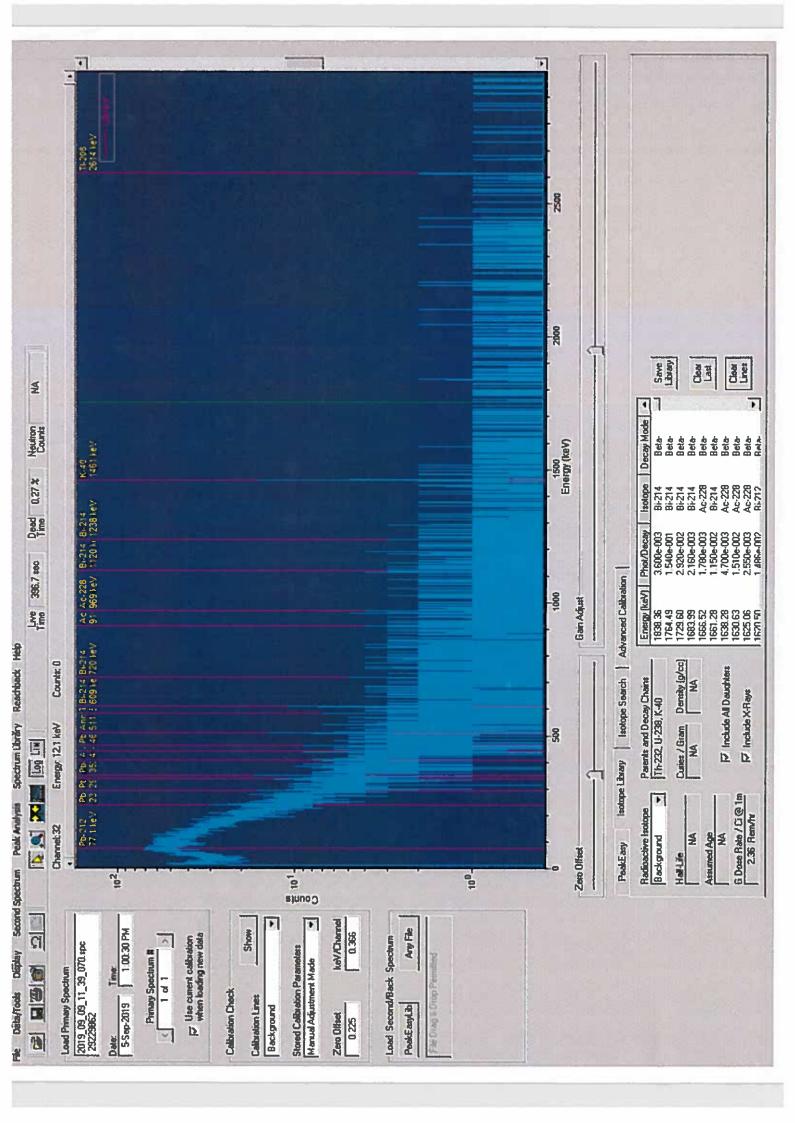
C:\Users\Canberra\AppData\Local\Temp\LANL sample report {969520F2-A15F-

Print Date

8/13/2019

Print Time

4:14:18PM





RadEye SX/L44-3 Performance Test Log

Count time: 60 seconds Cal Due Date: 2-6-20 Instrument PN: 1503 Rm: 141 Bldg: 3g Model: RadEye SX /Ludlum 44-3

Reference Readings

Check Sources	Isotope	#QI	Activity	60 Second Bkg	Gross Check Source	Net Check Source	Expected -20%	Expected +20%
			(undn)	(cbm)	(cbm)	(cbm)	(cpmxn.g)	(cpmxi.z)
	5,440	528-71	17580	27 <i>d</i>	10.000	125 6	+ ± ± ±	11 665

Signature: Man My 2-number 322536 Date Reference Readings Established: 6-77-19 RCT name: B. MOOLE

Performance Test Results

י כווסוווומווכב וכפר ויפפחום	ומפרוומפ	Cillic					Background	Background / Sample Count Time: 60 seconds
Date/Time	Background (cpm)	Ö	Ž	Pass/Fall	RCTZ Number	RCT Name	RCT Signature	Comments
	270	(chin)	(cpm)	c	21017	ç	110 - 11	- L
1-17-19-19-19-1-1	7 7 7	1221	21,015	1935	255775	B. Mage	1500 all	1-icst test
7-1-1900900 211	7117	9836	9625	1255	322536	B. Marie	The off	-(2P_ 10 01 <c< td=""></c<>
7-3-400715	150	000'01	9.750		322536	B. Moore	Brie My	RWP Sec A
7-8-1900050 210	210	10,500 10,290	10,290	Pass	Pass 322536	B. Marie	132 All	Free release
7-10-1900 240	240	9919 9,679	9,679	Pass	322536	B. Monra	Mrs. Al	RUN 525
7-11-140 1800 258	258	12,000	16.742	Pass	322536	B. Mare	March My	Garret Glacks
1/1/10 ORA6 369	369	11800	15431	PASC	321139	ADKUSON	Allmi	
08.08.19 0800	270	11900	11 630	PADS	336582	L. SHARISKY	110 SES	METAL CLENKANCE
CR. 12.19 OR35	267	grap	9523	PASS	336582	L- SHARISKY	Lang a differ	METAL CLEARANCE
06.13.19 0.630	210	11900	Ohorio	PAGE	334582	L. SHARKERY	12 Moderate	Metal Oledonich
							000	
						(A)		

BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG LOS Alamos

Cal. Due Date: 01.08.20 Location: TA-53, MPF-3R, Rm. 141 Check Source Model: ESP-1 HSE# (P/N): 748% Eberline Instrument Manufacture:__

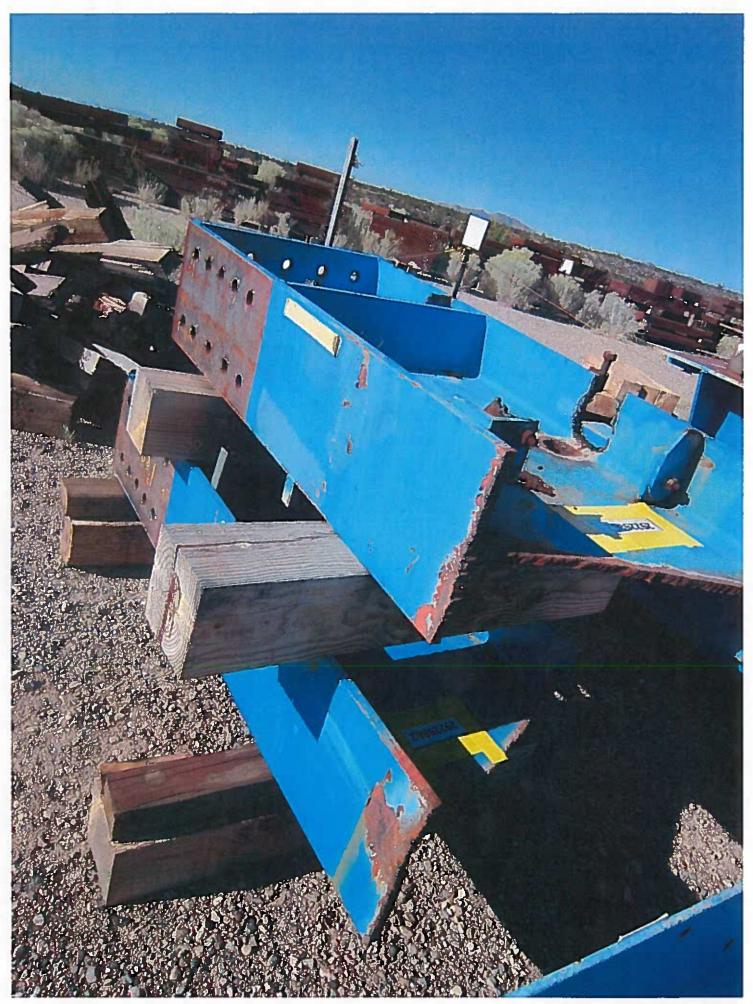
METAL CLEARAUCE METAL CLEARANCE METAL CLEARANCE METAL CLEMPANCE ID #: D38-00 2534 Comments ± 20%: 7216 to 10 824 dpm Reference: 9020 dpm 2.6µci D-38 Self de Isotope: Activity:__ Printed Name/Signature **3345 82** Z Number 1. SHARISKY L. SHARIGKY L.SHARKBOY L. SHAREKT N/A Z X 4 Pass/Fail PABB PAGS PAGG PASS A/N ٧ Check Source Reading 9202 9 ०५५ 9 185 414 Net Reference Reading Scale 4 N/A × N <u>لا</u> 42 12 47 Acceptance Range (± 20%) 812 dpm/ 1336 dpm Net Reference Reading Scale 3 Filter Position or Range: Open Scale dpm と2 RCT Name ₹ 2 N/A きつ L. SHARISKY 5113 1310 Net Reference Reading Scale 2 Reference Reading: Net Reading: くてな **1**2 ¥2 2 Net Reference Reading Scale 1 Date Reference Readings Established 1122 1265 1174 1291 Background Reference Source Bkg: 195 dpm Activity: 40.83µci 3 89 ğ /o830 0,000 0210 0830 |sotope:_ Date/Time BANGIA / A Autolo



BC # 29229862



Bc # 29229862



8c # 29229862



Date/Time:			Item Barcode	Yumbers
07.24.19/ 0930				
Photo File Nam	e:		29229	858
ltem Descripti	on, including any process and	historical knowle	dge	****
I Blue Housing	Component 26"x25"x32"			
II Blue Corner P	iece			
III Blue Housing	Component 23"x24"x43"			
IV Blue Housing	g Component 60"x34"x24"		10	
V Blue Corner S	itrut			
Evaluation				
Survey	Below release criterion? (Y/N)	Releasable? (Y/N)	1	
Direct Beta	Υ	Y		
Smear	Υ	Y		
Direct Gamma	Υ	Y		
Comments			•	
All items survey	yed were not directly in the beam	path		
	Name Suvou Me	Signature Signature	336582 Z-Number 10440 Z-Number	09.11.19 Date
	uran	Signature	106440 Z-Number	9 11 19 Date

Item Release Survey—Direct Beta and Gamma Survey

Date: 07.24.19	Time: 0930	No. samples: 50
TA: 53	Building: Spoils Pile	Room: Spoils Pile
L. Sharisky	Louis I State	336582
RCT Name	Signature //	Z Number
M. Duran	mhe Dur	106440
RCT Name	Signature	Z Number

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7488	7488	01.20.20	130	30%	106.80

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15028	15028	08.09.19	79	118

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	68
2	75
3	91
4	74
5	86
Average	79

Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	Blue Housing Component I: Top	220	Y [1-2]	91	Y
2	Blue Housing Component I: Bottom	157	Y [3]	85	Υ
3	Blue Housing Component I: South Facing Side	172	Y [4]	63	Υ
4	Blue Housing Component I: East Facing Side	207	Y [5-6]	55	Υ
5	Blue Housing Component I: Inside	207	Y [7-9]	51	Υ
6	Blue Corner Piece II: East Facing Side	164	Y [10-11]	97	Υ
7	Blue Corner Piece II: West Facing Side	205	Y [12-13]	87	Υ
8	Blue Corner Piece II: Top	200	Y [14-15]	91	Υ
9	Blue Corner Piece II: Bottom	208	Y [16-17]	97	Υ
10	Blue Housing Component III: Top	199	Y [18-19]	83	Υ
11	Blue Housing Component III: Bottom	180	Y [20]	80	Y

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
12	Blue Housing Component III: South Facing Side	120	Y [21-22]	80	Y
13	Blue Housing Component III: North Facing Side	166	Y [23-24]	85	Y
14	Blue Housing Component III: Inside	170	Y [25-28]	50	Υ
15	Blue Housing Component IV: Top	197	Y [29-31]	65	Υ
16	Blue Housing Component IV: Bottom	134	Y [32-33]	67	Υ
17	Blue Housing Component IV: South Facing Side	167	Y [34]	68	Υ
18	Blue Housing Component IV: East Facing Side	188	Y [35-37]	61	Υ
19	Blue Housing Component IV: West Facing Side	218	Y [38-40]	61	Υ
20	Blue Housing Component IV: Inside	196	Y [41-44]	55	Υ
21	Blue Corner Strut V: Top	225	Y [45]	65	Υ
22	Blue Corner Strut V: Bottom	203	Y [46]	84	Υ
23	Blue Corner Strut V: East Facing Side	193	Y [47]	44	Υ
24	Blue Corner Strut V: West Facing Side	197	Y [48-49]	87	Υ
25	Blue Corner Strut V: North Facing Side	195	Y [50]	56	Υ
N/A	END OF SURVEY	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Batch ID:

TA-53 Samples - 201907241430

Group:

Е

Device:

Bldg:

S5XLBG Unit2

Batch Key:

7915

BC#:

29229858

29229858

RP Tracking Number

Count Date:

7/24/2019 2:30:25PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate:

0.00

± 0.00 1.80 ± 0.60

Efficiency (%) Alpha:

31.11 ±

0.11 44.44 ± 0.11

T= 245.46dpm

Beta Rate: Gamma Rate:

20190724145247-E18

0.00

0.00

155.20

±

5.57

Beta:

8.80 Gamma:

Sample ID Alpha Unc Alpha MDA Unc Beta **Beta MDA** <u>Gamma</u> (dpm) (dpm) (dpm) (dpm) (dpm) 20190724143025-E1 0.00 0.00 8.70 -1.80 2.62 16.97 -104.55 20190724143326-E2 0.00 0.00 8.70 2.70 4.12 16.97 -172.73 20190724143436-E3 3.21 3.21 8.70 2.70 4.12 16.97 -13.64 20190724143546-E4 0.00 0.00 8.70 4.95 4.70 16.97 20.45 20190724143706-E5 0.00 0.00 8.70 -4.05 1.35 16.97 225.00 20190724143816-E6 0.00 0.00 8.70 -1.80 2.62 16.97 281.82 20190724143926-F7 3.21 3.21 8.70 4.95 4.70 16.97 111.36 20190724144036-E8 0.00 0.00 8.70 -1.80 2.62 16.97 100.00 20190724144156-E9 0.00 0.00 8.70 -4.051.35 16.97 372.73 -20190724144306-E10 0.00 0.00 8.70 2.70 4.12 16.97 20.45 20190724144416-E11 0.00 0.00 8.70 0.45 3.46 16.97 43.18 20190724144526-E12 0.00 0.00 8.70 0.45 3.46 -2.27 16.97 20190724144636-E13 0.00 0.00 8.70 -4.05 1.35 16.97 202.27 20190724144756-E14 0.00 0.00 8.70 4.95 4.70 16.97 -2.27 20190724144906-E15 0.00 0.00 8.70 2.70 4.12 16.97 -104.55 20190724145016-E16 3.21 3.21 8.70 -1.80 2.62 16.97 100.00 20190724145126-E17 0.00 0.00 8.70 0.45 3.46 16.97 9.09

8.70

-1.80

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2.62

16.97

88.64

Batch ID:

TA-53 Samples - 201907241430

Group:

Ε

Device:

S5XLBG Unit2

Batch Key:

Bldg:

7915

BC#: 29229858 RP Tracking Number

29229858

Count Date:

Count Mode:

7/24/2019 2:30:25PM

Count Minutes:

1.00

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate: Beta Rate:

Gamma Rate:

0.00 0.00 1.80 0.60 ±

5.57

155.20

Alpha: Beta:

31.11 ± 0.11 44.44 ± 0.11

Gamma:

8.80

Efficiency (%)

7=245.45dpm

Sample ID Unc Alpha MDA Unc **Gamma Alpha Beta Beta MDA** (dpm) (dpm) (dpm) (dpm) (dpm) 0.00 8.70 -1.80 2.62 16.97 -115.91 20190724145357-E19 0.00 20190724145507-E20 0.00 0.00 8.70 4.95 4.70 16.97 77.27 0190724145617-E21 0.00 0.00 8.70 0.45 3.46 16.97 -184.09 0190724145737-E22 3.21 8.70 3.21 -1.802.62 16.97 88.64 0190724145847-E23 3.21 8.70 2.62 3.21 -1.8016.97 -263.64 20190724145957-E24 0.00 0.00 8.70 7.20 5.21 16.97 88.64 0190724150107-E25 0.00 0.00 8.70 0.45 3.46 16.97 100.00 0190724150217-E26 0.00 0.00 8.70 -1.802.62 16.97 54.55 0190724150337-E27 0.00 0.00 8.70 -1.802.62 16.97 100.00 0190724150447-E28 3.21 3.21 8.70 0.45 3.46 16.97 -36.36 0190724150557-E29 0.00 0.00 8.70 -1.80 2.62 16.97 145.45 0190724150707-E30 3.21 3.21 8.70 0.45 3.46 16.97 -127.27 0190724150827-E31 0.00 0.00 8.70 0.45 3.46 16.97 -25.00 0190724150937-E32 0.00 0.00 8.70 -1.802.62 16.97 -93.18 0190724151047-E33 0.00 0.00 8.70 2.70 4.12 16.97 -2.27 0190724151157-E34 0.00 0.00 8.70 -1.80 2.62 16.97 -81.82 0190724151308-E35 0.00 0.00 8.70 2.70 4.12 16.97 100.00 0190724151428-E36 0.00 0.00 8.70 0.45 3.46 16.97 54.55 0190724151538-E37 3.21 3.21 8.70 -4.05 1.35 16.97 111.36 20190724151648-E38 0.00 0.00 8.70 -4.05 1.35 16.97 156.82

Batch ID:

TA-53 Samples - 201907241430

Group:

BC#:

Bldg:

Ε

Device:

S5XLBG Unit2

155.20

Batch Key:

7915

29229858

RP Tracking Number

29229858

Count Date:

7/24/2019 2:30:25PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate:

Beta Rate:

Gamma Rate:

0.00 1.80 ±

0.00 0.60

5.57

Alpha: Beta:

31.11 ± 0.11 44.44 ± 0.11

Gamma: 8.80

Efficiency (%)

7 = 245.45 dpm

Sample ID	<u>Alpha</u> (dpm)	<u>Unc</u>	Alpha MDA (dpm)	<u>Beta</u> (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
0190724151758-E39	3.21	3.21	8.70	0.45	3.46	16.97	-25.00
0190724151918-E40	3.21	3.21	8.70	0.45	3.46	16.97	145.45
0190724152028-E41	0.00	0.00	8.70	0.45	3.46	16.97	213.64
0190724152138-E42	0.00	0.00	8.70	-4.05	1.35	16.97	88.64
0190724152248-E43	0.00	0.00	8.70	-1.80	2.62	16.97	-161.36
 0190724152408-E44	0.00	0.00	8.70	0.45	3.46	16.97	-13.64
 0190724152518-E45	0.00	0.00	8.70	-4.05	1.35	16.97	77.27
0190724152628-E46	0.00	0.00	8.70	-4.05	1.35	16.97	-206.82
0190724152738-E47	0.00	0.00	8.70	-1.80	2.62	16.97	9.09
0190724152848-E48	3.21	3.21	8.70	0.45	3.46	16.97	9.09
0190724153008-E49	0.00	0.00	8.70	-4.05	1.35	16.97	-13.64
0190724153118-E50	0.00	0.00	8.70	2.70	4.12	16.97	213.64

EXCEPT SMEAR # 9; RECOUNT DATA ON NEXT PAGE ; RECOUNTED DUE TO ELAVATED

Reviewed by:

Print Date Print Time 7/24/2019 3:32:35PM

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Batch ID:

TA-53 Samples - 201907241541

Group:

Ε

Device:

BC#:

Bldg:

S5XLBG Unit2

RP Tracking Number

Batch Key:

7916

29229858

Count Date:

7/24/2019 3:41:02PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate:

0.00 ± 0.00 1.80 ± 0.60 Alpha: Beta:

31.11 ± 0.11 0.11

44.44 ±

of = 245.45 dpm

Gamma Rate:

Beta Rate:

155.20

± 5.57 Gamma:

Efficiency (%)

8.80

Sample ID

<u>Alpha</u> (dpm) 20190724154102-E9 0.00

<u>Unc</u> 0.00 Alpha MDA (dpm) 8.70

<u>Beta</u> (dpm) -1.80

<u>Unc</u> 2.62 **Beta MDA** (dpm) 16.97

<u>Gamma</u> (dpm) 20.45

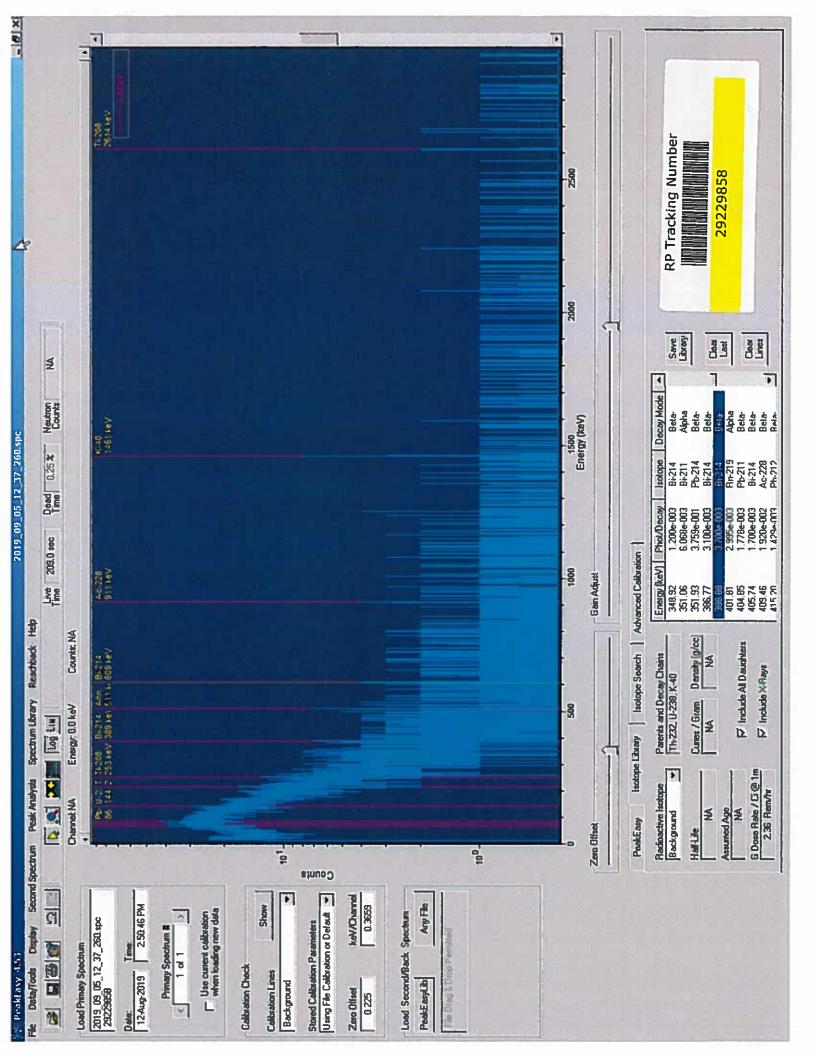
All Smears<MDALimits

Reviewed by:

Page 1 of 1

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Print Date Print Time 7/24/2019 3:42:38PM



LOS Alamos

BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG

Eberline Instrument Manufacture:

HSE# (P/N): 001488 ESP-1 Model:

Cal. Due Date: C1/c6/20 Location: TA-53, MPF-3R, Rm, 141

± 20%: 72, 10 10 10 12 24 dpm Reference: C1020 |sotope:_ Activity:_ N/A N/A Ν ž 3 A/N N/A

N

Open Scale

dpm dpm

Reference Reading: াস্ত

Filter Position or Range:

Reference Source

K-323

Sr⁸⁰

|sotope:_

Acceptance Range (± 20%) 892 dpm/13至dpm

Bkg: ۲۱5 dpm (عدم عدر نطریا)

Activity: 40.83ttci

115

Net Reading:

D38-00 127-4

Check Source

dpm

2.6uci D-38

35 24

RCT Name Signature Z Number COPPY	Net Reference Net Reference Check Source Reading Scale 2 Reading Scale 3 Reading Scale 4 Reading Comments	N/A N/A 9000 PASS ILMBEL GUARDE CAUMAGE
LAUREL 3 SHAREK	Net Reference Reading Scale 3	7
stablished	Net Reference Net R Reading Scale 1 Read	72 641
os Apply Date Reference Readings Established	Background Re	
CSARRIG Date Referenc	Date/Time	02MAY/1300 211

Net Reference Net Reference Net Reference Reading Scale 1 Reading Scale 2 Reading Scale 4	Net Reference Net Reference Reading Scale 3	Net Reference Reading Scale 3	3	Net Referer Reading Sc	ice ale 4	Check Source Reading	Pass/Fail	Printed Name/Signature	nre ure	Comments	
211 1149 N/A K/A N	4/2	W/P		Z	N/A	9000	PASS	INVEL SINGER JAN	Mak	METHL CLEARANCE	NCE / MONTON
195 1085 N/A N/A N	N/P N/P	13/4		2	N/A	2018	PAGS	L SHARISKY OF	TO THE	METAL CLENRANCE	S COMEGE
215 1237 N/A N/A N/A	4/7 4/7	4/7		2	4/	8757	PASS	L-SHARISKY OPEN	WHE	METAL CLEADANCE	Ь
157 1043 N/A N/A N/A	4/2	4/7		\ Z		8362	PASE	L-Shreusier / Jan	A. L	METAL CLEARANCE	ų
197 1168 N/A N/A N/A	4/2	4/2		2/2		8663	PASS	L.SIMRISET OF	Sall Sall	METAL CLEARAGE	97
N/A 1160 N/A 011	N/A N/A	N/&		M/A		8440	PASS	L-SHARKEY		METAL CLEARANCE	3
2DO 11100 W/A NA NA	E7.	E 7.		N/A		8910	PAGS	r. Shaaigky		NETAL CLONEANCE	l l
200 1080 N/A N/A N/A	N/A 1/A	11/4		N/p		8570	PASS	L. SHARISEY	THE STATE OF THE S		
151 1199 N/A N/A	N/A	N/A		₹		8619	98 88	L. GARRISKY / OPEN	STAN STAN	METAL CHEROLUKE	Į.
								9	100		

METHL CLEMPACE

L. SHARKLY

PAGS

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METAL CLEARANCE

METAL CLEARANCE

METAL CLEARASCE

L. SHARIGEY L. SHARISKY

PASS

PAGS

9349 9517

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4/7

2/2

PASS

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42 4/2

1147

113

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2

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173 184

0190/

といってを 28 Jours /



RadEye SX/ L44-3 Performance Test Log

Count time: 60 seconds Cal Due Date: CB.09.19 Instrument PN: 15028 Model: RadEye SX /Ludlum 44-3

COPY

Reference Readings

Check Sources Isotope ID# Activity 60 Second Bkg Gross Check Source Net Check Source Expected -20% Expected -20% Expected -20% Cpmx0.8) Cpmx0.8) Cpmx0.8) Cpmx0.8) Cpmx0.8) Cpmx1. Sr 90 K - 323 40.83 255 11400 11 145 8916 13 374									
K-323 40.83 255 11400 11 145 8916 1	Chock Course	leptone	#01		60 Second Bkg	Gross Check Source	Net Check Source	Expected -20%	Expected +20%
K-323 40.83 255 11400 11 145 8916	Circo Conicos	adologi	וחיי		(cbm)		(cbm)	(cpmx0.8)	(cpmxl.2)
		Sr 90	K-323	40.83	255	11400	11 145	8916	13 374

Date Reference Readings Established: 23 July 19

Signature Land J. A. L. L. Lumber. 326522.

RCT name; C. SHARISKY

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Background / Sample Count Time; by seconds	Comments	METALTIENDAJCE	METAL CLEARANCE						
Background	RCT Signature	CANON &	12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						
	RCT Name	L.SHRIGEZ	L. Shabiskí						
	RCTZ Number	3945B2	330582						
	Pass/Fall	PASS	PASS						
	Net Check Source (cpm)	10843				36			
CILE	Gross Check Net Check Source Source (cpm) (cpm)	1100	11400						
ומפר ואמפ	Background (cpm)	157	266						
ciloinance reservesants	Date/Time	57.23.19 /0800 257	07.24.19/0751						

o J

May 23, 2014



BC# 29229858



BC# 29229858



BC# 29229858



Date/Time:			Item Barcode I	Numbers
08.01.19 / 0900)			
Photo File Nam	e:		29229	860
Item Description	on, including any process and	historical knowled	ge	
I Blue Corner St	rut		©:	
II Blue Housing	Component 32"x24"x36"			
III Blue Housing	Component "T" Shaped			
IV Blue Support	Bracket			
V Blue Housing	Component "Long Bracket"			
Evaluation				
Survey	Below release criterion? (Y/N)	Releasable? (Y/N)		
Direct Beta	Υ	Υ		
Smear	Y	Υ		
Direct Gamma	Υ	Υ		
Comments				
Items were not	directly in beam path.			
- 1	(4)			<u> </u>
L. Sha	arish,	MA	336582	
RCT N		ignature)	Z-Number	09.11.19 Date
AL. T	ouran me	Danda	106440	a 1 11 19
RCT		ignature	Z-Number	Date
	uran	\cap	106440	alulia

Item Release Survey—Direct Beta and Gamma Survey

Date: 08.01.19	Time: 0900	No. samples: 40
TA: 53	Building: Spoils Lot	Room: Spoils Lot
L. Sharisky	Lunch State	336582
RCT Name	Signature)	Z Number
M. Duran RCT Name	Signature	

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7488	7488	01.08.20	143	30%	111.52

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15028	15028	08.09.19	64.2	100

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	69
2	68
3	70
4	52
5	62
Average	64.2

Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	l Blue Corner Strut: Top	212	Y [1]	71	Υ
2	I Blue Corner Strut: Bottom	197	Y [2]	56	Y
3	l Blue Corner Strut: South Facing Side	188	Y [3]	61	Y
4	I Blue Corner Strut: East Facing Side	220	Y [4]	73	Y
5	I Blue Corner Strut: West Facing Side	120	Y [5]	80	Y
6	II Blue Housing Component: Top	205	Y [6]	69	Y
7	II Blue Housing Component: Bottom	137	Y[7]	89	Y
8	II Blue Housing Component: South Facing Side	194	Y [8]	70	Υ
9	II Blue Housing Component: West Facing Side	185	Y [9]	69	Y
10	II Blue Housing Component: North Facing Side	201	Y [10]	62	Υ
11	II Blue Housing Component: East Facing Side	205	Y[11]	72	Y

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
12	II Blue Housing Component: Inside	186	Y [12]	51	Υ
13	III Blue Housing Component: Top	207	Y [13-15]	59	Υ
14	III Blue Housing Component: Bottom	191	Y [16-18]	94	Υ
15	III Blue Housing Component: Inside	186	Y [19]	40	Υ
16	III Blue Housing Component: South Facing Side	186	Y [20-21]	67	Υ
17	III Blue Housing Component: North Facing Side	196	Y [22-23]	79	Υ
18	III Blue Housing Component: East Facing Side	177	Y [24-25]	80	Υ
19	III Blue Housing Component: West Facing Side	162	Y [26-27]	65	Y
20	IV Blue Support Bracket: Top	203	Y [28]	90	Υ
21	IV Blue Support Bracket: Bottom	194	Y [29]	90	Υ
22	V Blue Housing Component: Top	198	Y [30-32]	44	Υ
23	V Blue Housing Component: Bottom	183	Y [33-34]	65	Y
24	V Blue Housing Component: North Facing Side	191	Y [35]	63	Υ
25	V Blue Housing Component: East Facing Side	223	Y [36-37]	74	Υ
26	V Blue Housing Component: South Facing Side	175	Y [38]	63	Υ
27	V Blue Housing Component: West Facing Side	200	Y [39-40]	72	Υ
N/A	END OF SURVEY	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Batch ID: TA-53 Samples - 201908011405

Group:

Е

S5XLBG Unit2 Device:

Batch Key:

BC#:

Blda:

7994

29229860

29229860

Count Date:

8/1/2019 2:05:13PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate: Beta Rate:

0.00 1.80

± 0.00

± 0.60 Alpha: Beta:

31.11 ± 0.11 44.44 ± 0.11

Efficiency (%)

7 = 247.25 dpm

Gamma Rate:

20190801142735-E18

0.00

0.00

155.20

5.57 ±

Gamma:

8.80

Sample ID <u>Alpha</u> Unc Alpha MDA Unc <u>Beta</u> **Beta MDA Gamma** (dpm) (dpm) (dpm) (dpm) (dpm) 20190801140513-E1 0.00 8.70 0.00 13.95 6.51 16.97 100.00 20190801140814-E2 8.70 0.00 0.00 0.45 3.46 16.97 -127.27 20190801140924-E3 3.21 8.70 3.21 9.45 5.67 16.97 88.64 20190801141034-E4 0.00 0.00 8.70 2.70 4.12 16.97 361.36 20190801141154-E5 0.00 8.70 0.00 4.95 4.70 16.97 -172.73 20190801141304-E6 8.70 6.43 4.55 9.45 5.67 16.97 31.82 20190801141414-E7 0.00 0.00 8.70 -4.05 1.35 16.97 -343.18 20190801141524-E8 0.00 0.00 8.70 -1.80 2.62 16.97 88.64 20190801141644-E9 0.00 8.70 0.00 0.45 3.46 16.97 65.91 20190801141754-E10 0.00 8.70 0.00 -1.80 2.62 16.97 179.55 20190801141904-E11 0.00 0.00 8.70 0.45 3.46 16.97 -93.18 20190801142014-E12 0.00 0.00 8.70 -4.05 1.35 16.97 236.36 20190801142124-E13 0.00 8.70 0.00 2.70 4.12 -81.82 16.97 20190801142244-E14 0.00 0.00 8.70 4.95 4.70 16.97 225.00 20190801142354-E15 0.00 0.00 8.70 -1.802.62 338.64 -16.97 20190801142504-E16 0.00 0.00 8.70 -1.802.62 16.97 281.82 20190801142614-E17 0.00 0.00 8.70 0.45 3.46 16.97 9.09

9.45

5.67

8.70

16.97

100.00

Batch ID:

TA-53 Samples - 201908011405

Group:

Ε

Device:

S5XLBG Unit2

Batch Key:

7994

BC#: Bldg: 29229860

ICE TRACKING NUMBER

29229860

RP Tracking Number

Count Date:

Count Mode:

8/1/2019 2:05:13PM

Count Minutes:

1.00

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate:

0.00 ± 0.00 1.80 ± 0.60

Efficiency (%) Alpha:

31.11 ± 0.11 44.44 ± 0.11

8.80

V= 247.25 dpm

Beta Rate:

Gamma Rate:

155.20 ± 5.57

Beta: Gamma:

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190801142845-E19	0.00	0.00	8.70	2.70	4.12	16.97	-2.27
20190801142955-E20	0.00	0.00	8.70	0.45	3.46	16.97	-2.27
20190801143105-E21	0.00	0.00	8.70	7.20	5.21	16.97	-240.91
20190801143225-E22	0.00	0.00	8.70	7.20	5.21	16.97	-104.55
20190801143335-E23	0.00	0.00	8.70	2.70	4.12	16.97	77.27
20190801143445-E24	0.00	0.00	8.70	0.45	3.46	16.97	-36.36
20190801143555-E25	3.21	3.21	8.70	0.45	3.46	16.97	-127.27
20190801143705-E26	3.21	3.21	8.70	2.70	4.12	16.97	-70.45
20190801143825-E27	3.21	3.21	8.70	7.20	5.21	16.97	-93.18
20190801143935-E28	0.00	0.00	8.70	4.95	4.70	16.97	259.09 —
20190801144045-E29	0.00	0.00	8.70	4.95	4.70	16.97	-25.00
20190801144155-E30	0.00	0.00	8.70	2.70	4.12	16.97	43.18
20190801144315-E31	0.00	0.00	8.70	7.20	5.21	16.97	-2.27
20190801144425-E32	0.00	0.00	8.70	-1.80	2.62	16.97	-93.18
20190801144535-E33	0.00	0.00	8.70	-1.80	2.62	16.97	-150.00
20190801144645-E34	0.00	0.00	8.70	2.70	4.12	16.97	-150.00
20190801144756-E35	0.00	0.00	8.70	0.45	3.46	16.97	179.55
20190801144916-E36	0.00	0.00	8.70	2.70	4.12	16.97	-47.73
20190801145026-E37	0.00	0.00	8.70	0.45	3.46	16.97	31.82
20190801145136-E38	0.00	0.00	8.70	0.45	3.46	16.97	179.55

Batch ID:

TA-53 Samples - 201908011405

Group:

Ε

Device:

Bldg:

S5XLBG Unit2

Batch Key:

7994

BC#: 2922

29229860

29229860

Count Date:

8/1/2019 2:05:13PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate: Beta Rate:

Gamma Rate:

 0.00 ± 0.00 1.80 ± 0.60

± 5.57

155.20

Alpha: Beta:

Gamma:

31.11 ± 0.11 44.44 ± 0.11

8.80

Efficiency (%)

V = 247.25dpm

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190801145246-E39	0.00	0.00	8.70	-1.80	2.62	16.97	100.00
20190801145406-E40	3.21	3.21	8.70	0.45	3.46	16.97	-70.45

All Smears<MDALimits

& EXCEPT GNEARS # 4, 15, 16, 28; RECOUNT DATA ON NEXT PAGE; RECOUNTED DUE TO ELAVATED & COUNTS

Reviewed by:

D--- 0 --

C\\Users\Canberra\AppData\Local\Temp\LANL sample report {C0D0090D-F5C-

8/1/2019 2:55:21PM

Print Date Print Time

Sample Report

Batch ID:

TA-53 Samples - 201908011500

Group:

Ε

Device:

BC#:

Bldg:

S5XLBG Unit2

Batch Key:

7995

29229860

Count Date:

8/1/2019 3:00:59PM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

RP Tracking Number

Selected Geometry

5/16" Stainless Steel

Background (cpm)

0.00 ± 0.00 Efficiency (%)

31.11 ± 0.11

Alpha: Beta:

44.44 ± 0.11 Y = 247.25

Beta Rate: Gamma Rate:

Alpha Rate:

1.80 ± 0.60 155.20 5.57

8.80 Gamma:

Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190801150059-E4	0.00	0.00	8.70	0.45	3.46	16.97	-184.09
20190801150230-E15	0.00	0.00	8.70	4.95	4.70	16.97	-286.36
20190801150340-E16	0.00	0.00	8.70	-4.05	1.35	16.97	156.82
20190801150450-E28	3.21	3.21	8.70	13.95	6.51	16.97	31.82

All Smears<MDALimits

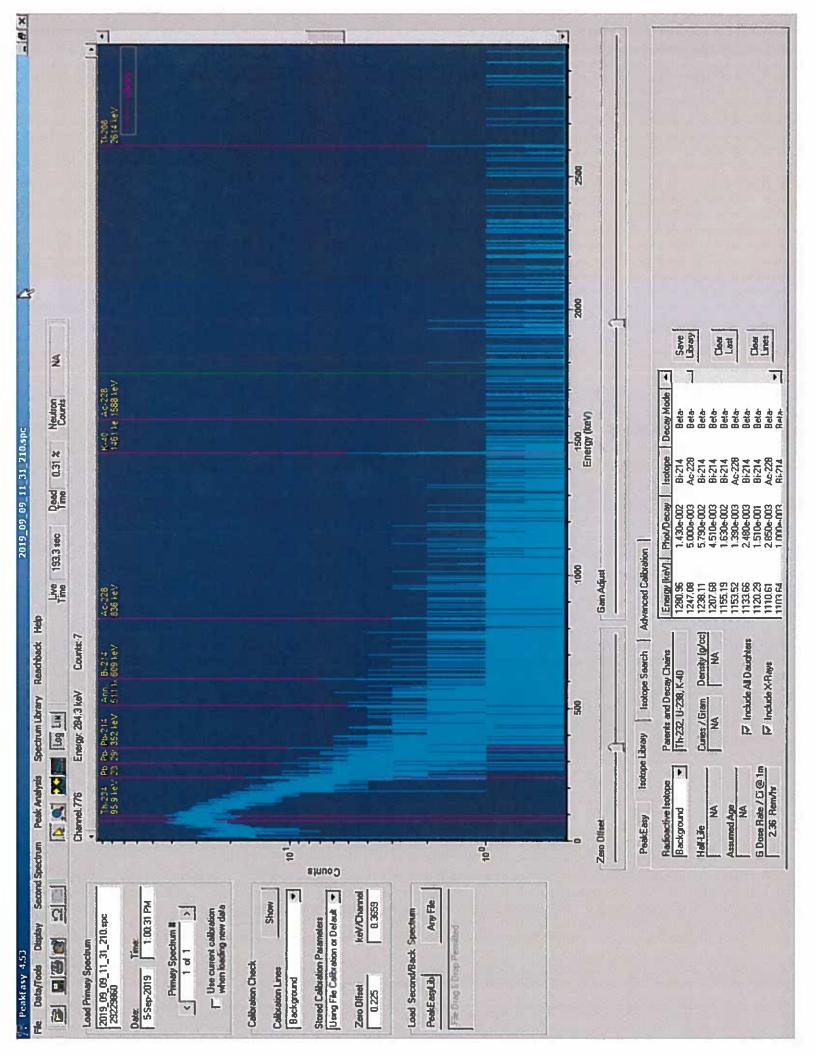
Page 1 of 1

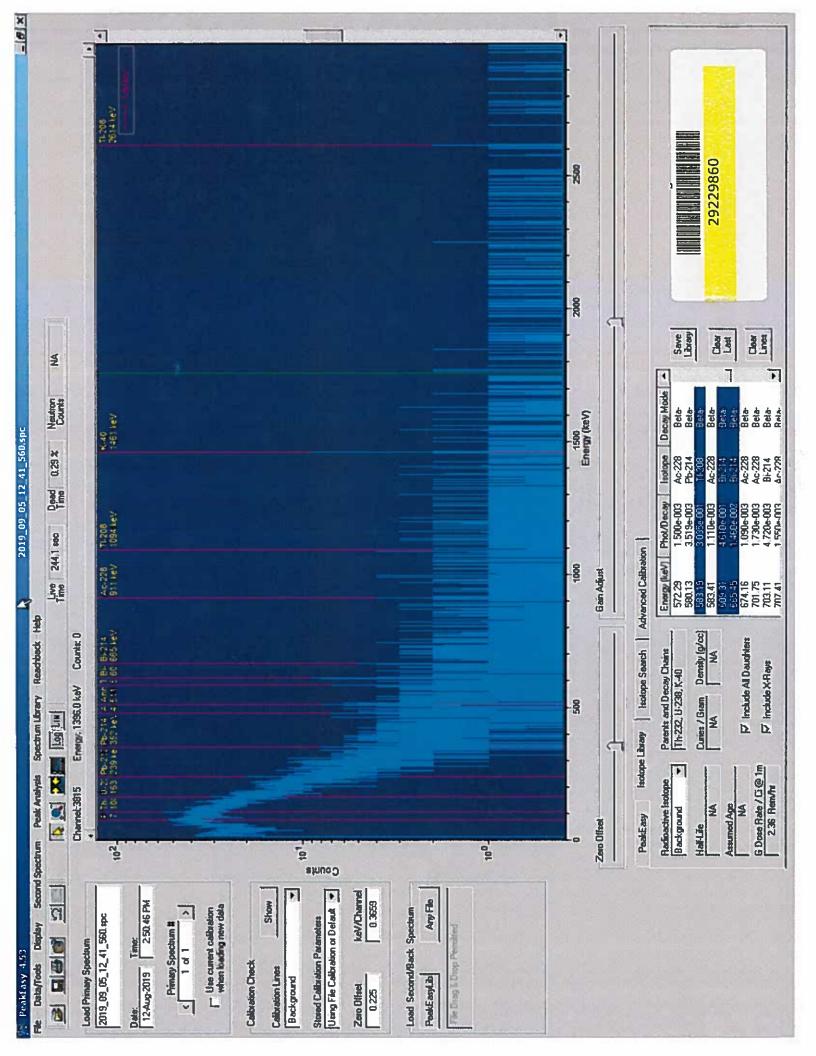
C:\Users\Canberra\AppData\Local\Temp\LANL sample report {EBA6796E-8146

Print Date

8/1/2019 3:06:16PM

Print Time







RadEye SX/L44-3 Performance Test Log

TA: 5	3	Bldg:	38	Rm:	R141 Instrume	Instrument PN: 15028	Cal Due Date: 😘.๐ค.เๆ	
Model:	RadEye SX /Lui	dlum 44-3				_		Count time; 60 seconds

Reference Readings

									,
0000000	900	721	Activity	60 Second Bkg	Gross Check Source N	Net Check Source	Expected -20%	Expected +20%	_
Sanne	adolosi	10.	(dbm)	(cpm)	(cbm)	(cpm)	(cpmx0,8)	(cpmxl.2)	
	Sr 90	K-323	40.83	322	11600	11 145	8916	13 374	_
									_

RCT name; L. SHARISKY

Date Reference Readings Established: 23 Jul 19

ω l		_						_		_		_
Background / Sample Count Time: 60 seconds	Comments	METAL ELEMANJOE	METAL CLEARANCE	METAL CLEARANCE		METAL CLEARANCE						
Background	RCT Signature	R MIRE	200 1 12X	Lund D. Mark	Call Ball	80 00 S	2 0 1		00			
	RCT Name	L.SHARBER	L. SHARISKY	L. SHARISKT	L. SHABGERY	L. SHARISKT)	: :				
	RCTZ Number	3345 BZ	33a5B2	28,795	28.592	334682						
	Pass/ Fall	PASS	PASS	PASS	PASS	PAGS						
	Net Check Source (cpm)	10843	76	(1000)	11153	11250						
airs	Gross Check Source (cpm)	11100	11400	11300	0011	11500						
est Kes	Background (cpm)	757	266	549	LhZ	250						
Performance lest Results	Date/Time	57.23.19 /0800	15/0/11/12/0	0830/ PI. 25. FO	01.31.97/1250	CST0/ P1.10.80		,				

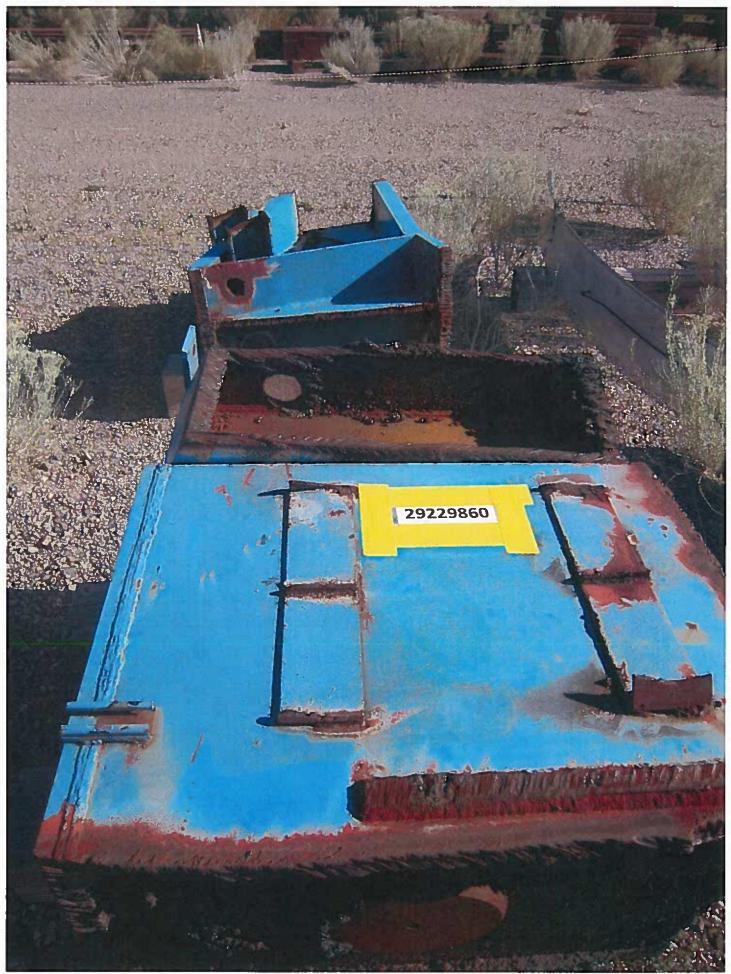
BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG LOS Alamos

Eberline Model: ESP-1 HSE# (P/N): 148%

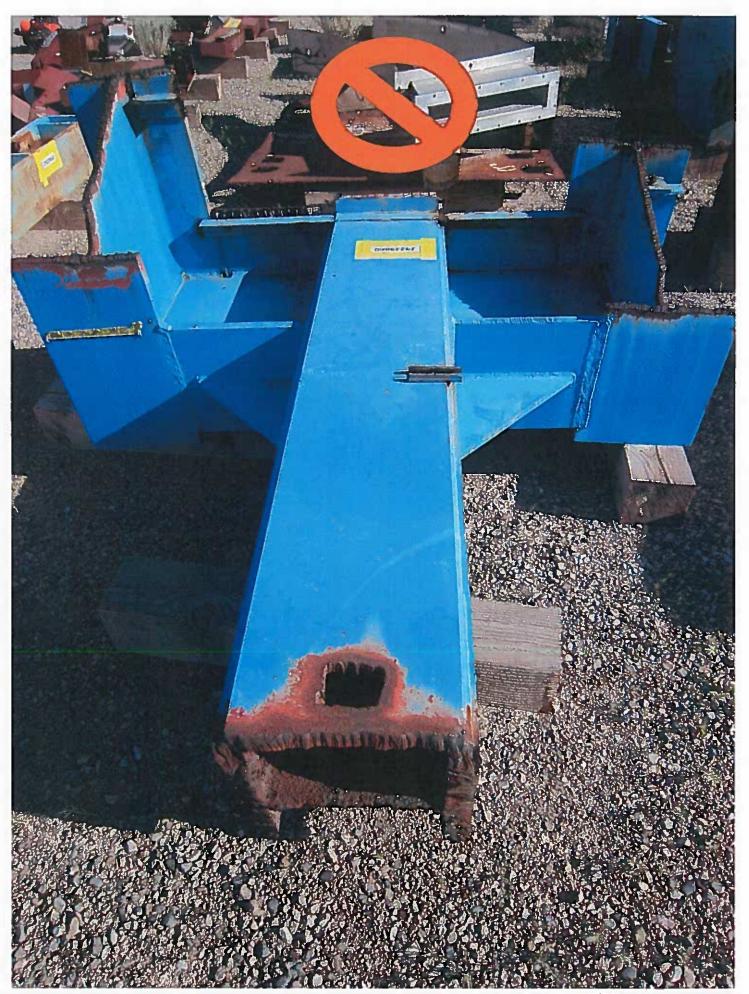
Instrument Manufacture:___

Cal. Due Date: ol. of. 20 Location: TA-53, MPF-3R, Rm. 141

METAL CLEARANCE METAL CLEPRANCE ID #: D38-00 2536 Comments +20%:7216 to 10824dpm Reference: 9020 dpm Check Source 2.6µci D-38 Activity:__ Isotope:_ Printed Name/Signature 2345 82 Z Number L-SHARKBY L. SHARKY N/A N/A 4 Pass/Fail PAGS PASS N/A Ν Check Source Reading ന 9202 न ०भम Net Reference Reading Scale 4 N/A N/A N ₹ 2 く 2 Acceptance Range (± 20%) 842 dpm/ 1336 dpm Net Reference Reading Scale 3 Filter Position or Range: Open Scale dpm dpm き2 **RCT Name** ₹ 2 Reference Reading: 1810 1115 L. BHMRISKY Net Reference Reading Scale 2 Net Reading: くして **4**/2 oa APRAG Date Reference Readings Established Net Reference Reading Scale 1 1122 1174 Background Reference Source Activity: 40.8311ci 97 89 Bkg: 195 dpm K-323 S. 8 0000 0220 Isotope:_ Date/Time



BC# 29229860



BC#= 29229860





BC#: 2922986



LANSCE Metals Clearance Log

Date/Time:			Item Barcode Numbers
08.08.19/ 0900			
Photo File Nam	ne:		29229861
item Descripti	on, including any process and	historical knowled	ge
8 Rusty Arch Sh	aped Components		
Evaluation			
Survey	Below release criterion? (Y/N)	Releasable? (Y/N)	
Direct Beta	Y	Y	
Smear	Y	Υ	
Direct Gamma	Υ	Y	
Comments			
Components w	ere not directly in beam path		
Arches are spec	cified using roman numerals		
	19,		
L. Sha	arisky A	1111	336582 09.11.19
		ignature	336582 <u>09.11.19</u> Z-Number Date
IM . 7	Suran - h	e Du	106440 9/11/19
		ignature	Z-Number Date
	•	\	-1.1
	eviewer S	lung ignature	

LANSCE Metals Clearance Log

Item Release Survey—Direct Beta and Gamma Survey

Date: 08.08.19	Time: 0900	No. samples: 32
TA: 53	Building: Spoils Lot	Room: Spoils Lot
L. Sharisky	Level St. A	336582
RCT Name	Signature)	Z Number
W. Duran	me Dun	106440
RCT Name	Signature	Z Number

Instrument Information

Eberline ESP-1 with HP260

ESP-1 PN	HP260 PN	Cal. Due	Background (dpm)	Efficiency	MDA (dpm)
7488	7488	01.20.20	165	30%	119.05

Rad Eye with M44-3

Rad Eye PN	M44-3 PN	Cal. Due	Background Average (cpm)	Decision Level (DL) (cpm)
15031	15031	02.06.20	70.6	110

M44-3 Background Results

Number	Gamma at ½ inch (cpm)
1	70
2	75
3	66
4	81
5	61
Average	70.6

Survey Results

Survey Area	Item/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
1	I: Rusty Arch: Top	223	Y [1-2]	61	Y
2	I: Rusty Arch: Bottom	117	Y [3-4]	79	Y
3	II: Rusty Arch: Top	226	Y [5-6]	86	Y
4	II: Rusty Arch: Bottom	162	Y [7-8]	98	Υ
5	III: Rusty Arch: Top	220	Y [9-10]	76	Υ
6	III: Rusty Arch: Bottom	162	Y [11-12]	93	Y
7	IV: Rusty Arch: Top	213	Y [13-14]	60	Y
8	IV: Rusty Arch: Bottom	170	Y [15-16]	70	Y
9	V: Rusty Arch: Top	225	Y [17-18]	72	Y
10	V: Rusty Arch: Bottom	156	Y [19-20]	104	Υ
11	VI: Rusty Arch: Top	172	Y [21-22]	55	Y

LANSCE Metals Clearance Log

Survey Area	ltem/Area	Direct Beta (dpm)	Smear Taken? (Y/N)	Gamma at 0.5 inch (cpm)	Less than DL? (Y/N)
12	VI: Rusty Arch: Bottom	132	Y [23-24]	98	Υ
13	VII: Rusty Arch: Top	224	Y [25-26]	73	Y
14	VII: Rusty Arch: Bottom	186	Y [27-28]	101	Υ
15	VIII: Rusty Arch: Top	222	Y [29-30]	64	Υ
16	VIII: Rusty Arch: Bottom	182	Y [31-32]	63	Y
N/A	END OF SURVEY	N/A	N/A	N/A	N/A
	5.1				
	-				
			 		
			-		
		-	-		
h1/4	At/A		N/A		
N/A	N/A	N/A	N/A	N/A	N/A

Sample Report

Batch ID:

TA-53 Samples - 201908090848

Group:

Ε

Device:

Bida:

S5XLBG Unit2

Batch Key:

8080

29229861

BC#:

RP Tracking Number

29229861

Count Date:

8/9/2019 8:48:05AM

Count Minutes:

1.00

Simultaneous

Count Mode:

1335

Operating Volts:

Gamma Volts:

828

5/16" Stainless Steel Selected Geometry

Background (cpm)

0.00 0.00

1.80 ± 0.60 5.57

Alpha: Beta:

31.11 ± 0.11

44.44 ± 0.11 8.80

Efficiency (%)

8= 260.82 dpm

Gamma Rate:

Alpha Rate:

Beta Rate:

20190809091026-E18

0.00

0.00

155.20

土

Gamma:

Sample ID <u>Alpha</u> **Unc** Alpha MDA <u>Unc</u> **Beta MDA Beta Gamma** (dpm) (dpm) (dpm) (dpm) (dpm) 20190809084805-E1 0.00 8.70 0.45 16.97 145.45 0.00 3.46 20190809085105-E2 8.70 0.00 0.00 -1.80 2.62 16.97 -286.36 20190809085215-E3 0.00 0.00 8.70 -1.80 2.62 16.97 -81.82 20190809085326-E4 0.00 0.00 8.70 2.70 4.12 16.97 43.18 20190809085446-E5 3.21 3.21 8.70 406.82 -7.20 5.21 16.97 20190809085556-E6 0.00 8.70 4.70 0.00 4.95 16.97 -184.09 20190809085706-E7 8.70 0.00 0.00 0.45 3.46 16.97 236.36 20190809085816-E8 0.00 0.00 8.70 2.70 4.12 16.97 145.45 20190809085936-E9 0.00 8.70 0.00 0.45 3.46 16.97 9.09 20190809090046-E10 0.00 8.70 0.00 -1.802.62 16.97 -59.09 20190809090156-E11 0.00 8.70 0.00 -1.802.62 16.97 -206.82 20190809090306-E12 0.00 8.70 0.00 -4.05 1.35 16.97 202.27 20190809090416-E13 0.00 0.00 8.70 -1.80 2.62 16.97 -93.18 20190809090536-E14 3.21 3.21 8.70 -1.80 2.62 16.97 9.09 20190809090646-E15 0.00 0.00 8.70 -1.80 2.62 16.97 168.18 20190809090756-E16 0.00 0.00 8.70 -1.80 2.62 16.97 -150.00 20190809090906-E17 0.00 8.70 0.00 9.45 5.67 16.97 -25.00

-4.05

1.35

8.70

16.97

-161.36

Batch ID:

TA-53 Samples - 201908090848

Group:

Ε

Device:

BC#:

Bldg:

S5XLBG Unit2

Batch Key:

8080

29229861

RP Tracking Number

29229861

Count Date:

8/9/2019 8:48:05AM

Count Minutes:

Count Mode:

1.00

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Efficiency (%)

Alpha Rate: Beta Rate:

Gamma Rate:

0.00 <u>+</u> 0.00 1.80 0.60

±

5.57

155.20

Alpha: Beta:

31.11 ± 0.11 44.44 ± 0.11

Gamma: 8.80 V= 260.82

Sample ID	<u>Alpha</u> (dpm)	<u>Unc</u>	Alpha MDA (dpm)	<u>Beta</u> (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190809091137-E19	0.00	0.00	8.70	0.45	3.46	16.97	225.00
20190809091246-E20	0.00	0.00	8.70	-1.80	2.62	16.97	-59.09
20190809091357-E21	3.21	3.21	8.70	0.45	3.46	16.97	65.91
20190809091517-E22	0.00	0.00	8.70	2.70	4.12	16.97	77.27
20190809091627-E23	0.00	0.00	8.70	2.70	4.12	16.97	-25.00
20190809091737-E24	0.00	0.00	8.70	2.70	4.12	16.97	-172,73
20190809091847-E25	0.00	0.00	8.70	-4.05	1.35	16.97	-93.18
20190809091957-E26	0.00	0.00	8.70	7.20	5.21	16.97	-13.64
20190809092117-E27	0.00	0.00	8.70	-4.05	1.35	16.97	43.18
20190809092227-E28	0.00	0.00	8.70	-1.80	2.62	16.97	-172.73
20190809092337-E29	0.00	0.00	8.70	2.70	4.12	16.97	-184.09
 20190809092447-E30	0.00	0.00	8.70	7.20	5.21	16.97	-2.27
0190809092607-E31	0.00	0.00	8.70	-1.80	2.62	16.97	145.45
0190809092717-E32 alpha exceeds mda	9.64	5.57	8.70	-4.05	1.35	16.97	31.82

All Smears<MDALimits

& EXCEPT SMBAS # 5, # 32; RECOUNT DATA ON NEXT PAGE; RECOUNTED DUE TO ELANATED COUNTS #5 → T > MOA #32 + 0C > MDA

Reviewed by

Page 2 of 2

C:\Users\Canberra\AppData\Local\Temp\LANL sample report {DD7FE19D-854t

Print Date Print Time 8/9/2019 9 28:33AM

Sample Report

TA-53 Samples - 201908090942 Batch ID:

Group:

Ε

Device:

S5XLBG Unit2

Batch Key:

BC#:

Bldg:

8081

RP Tracking Number

29229861

Count Date:

8/9/2019 9:42:16AM

Count Minutes:

1.00

Count Mode:

Simultaneous

Operating Volts:

1335

Gamma Volts:

828

Selected Geometry

5/16" Stainless Steel

Background (cpm)

Alpha Rate: Beta Rate:

0.00

± 0.00 1.80 ± 0.60

Efficiency (%) Alpha:

31.11 ± 0.11

44.44 ±

V= 260.82dpm

Gamma Rate:

155.20

± 5.57

Gamma:

Beta:

8.80

0.11

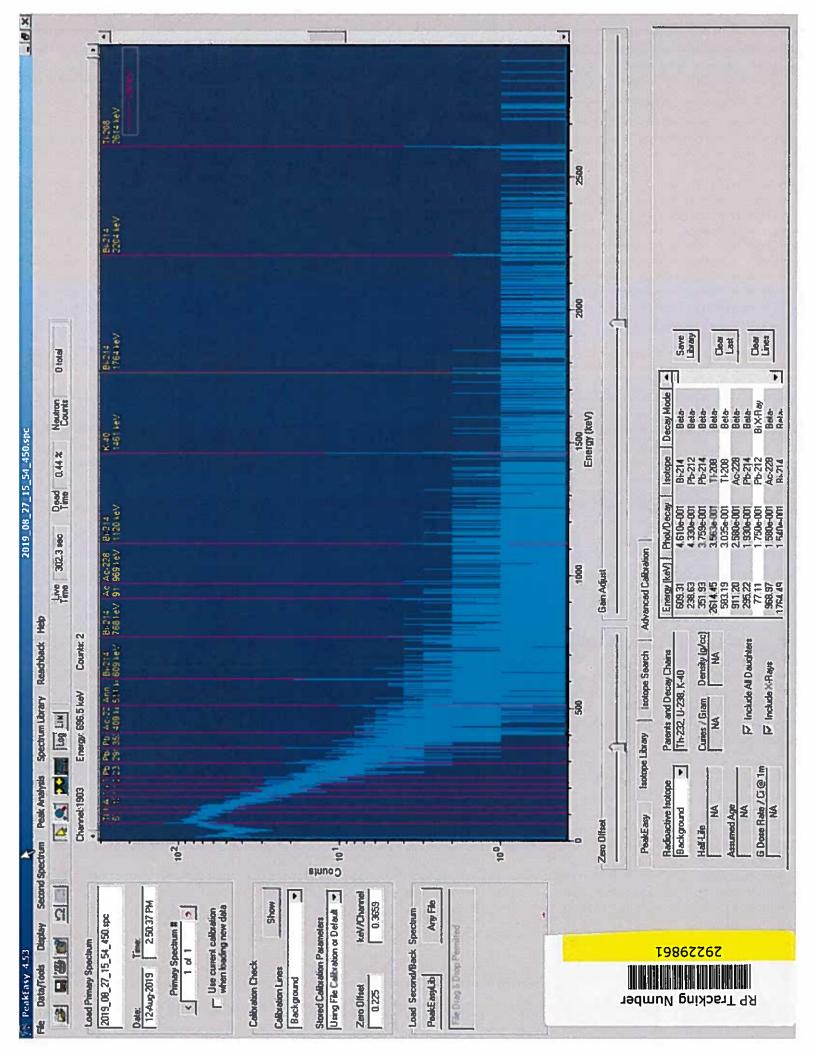
Sample ID	Alpha (dpm)	<u>Unc</u>	Alpha MDA (dpm)	Beta (dpm)	<u>Unc</u>	Beta MDA (dpm)	Gamma (dpm)
20190809094216-E5	3.21	3.21	8.70	11.70	6.10	16.97	-59.09
20190809094346-E32	0.00	0.00	8.70	4.95	4.70	16.97	43.18

All Smears<MDALimits

Page 1 of 1 C:\Users\Canberra\AppData\Local\Temp\LANL sample report {54CE2DAE-D66 **Print Date**

8/9/2019 9:45:02AM

Print Time



BETA/GAMMA SURVEY INSTRUMENT PERFORMANCE TEST LOG LOS Alamos

METAL CLEARANCE Cal. Due Date: ol. of 20 Location: TA-53, MPF-3R, Rm. 141 METAL CLEAPANCE ID #: D38-00 1536 Comments +20%:7216 to 10 824 dom Reference: 9020 dpm Check Source 2.6uci D-38 !sotope:_ Activity:_ Printed Name/Signature 23 Sumber Z Number L.SHARKBOY L. SHARBKT Ϋ́ Ν Pass/Fail PAGS PASS ΥZ Ν Check Source Reading Signature ന 9202 9 ७५५ HSE# (P/N): 748% Net Reference Reading Scale 4 N/A N/A C) **4**2 ₹ 2 Acceptance Range (± 20%) 892 dpm/ 1398 dpm Net Reference Reading Scale 3 Open Scale dpm dpm Model: ESP-1 RCT Name 1 ₹ 2 5111 1310 L. SHARISKY Net Reference Reading Scale 2 Filter Position or Range: Reference Reading: Net Reading: くべん **4**/2 Eberline Net Reference Reading Scale 1 Date Reference Readings Established Instrument Manufacture:___ 1122 1114 Background Reference Source 9 89 Activity: 40.8311ci Bkg: 195 dpm K-323 8 8 0.000 0150 Isotope: 03 APR 19 Date/Time or Autim



RadEye SX/L44-3 Performance Test Log

Count time; 60 seconds Cal Due Date: 2-6-20 Instrument PN: 1503 Rm:)4 | Bldg: 3g Model: RadEye SX /Ludlum 44-3

Reference Readings

Charle Course	occion	, CI	Activity	60 Second Bkg	Gross Check Source	Net Check Source	Expected -20%	Expected +20%
Cilety Sources	Isolope		(mdp)	(cbm)	(cpm)	(cbm)	(cpmx0.8)	(cpmxl.2)
5	5, 440	16-323	17758.04	bt7	10,000	125 6	+ + + + +	11.665
						_		

Signature: Men M. Z-number. 322536 Date Reference Readings Established: 6-27-19 RCT name: B. MOOLE

Performance Test Results	Test Res	sults					Background	Background / Sample Count Time: 60 seconds
		Gross Check	Net Check		DO11			
Date/Time	(cpm)	Source (cpm)	Source (com)	Pass/ Fall	Number	RCT Name	RCT Signature	Comments
P77-1990900 279		18411	9,615	Pass	352536	B. Mear	Show all	First test
7-1-1900900 211	117	9836	9625		322536		The age	Free release
7-3-19100715 250	250	10,000	9750	1 1	322536		Bree My	RWP Sec A
7-8-12000550 210		10,500 10,290		Pass	322236	B. Manie	Br. All	Free release
7-10-1900 040 240	240	9919 9,679	19.49	Pass	322536	B. Mone	Bu All	RWP 535
7-11-14@1000 258	258	12,000 16.742	16.742	Pass	Pass 322536	B. Mare	Bro and	Concrete blocks
1/1/19 OB46 360)	369	11800	154,11	22 Ag	331239	ADKINI	Show	
C08:08:18 08:00	2:1b	11900	11 630	PAS	336582	L. SHARISCY	LI JUBB	METAL CLERKANCE
							M v	



BC # 29229861